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WILLIAM E. McVEY, B.S., M.D.
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No 1.

Organic vs. Functional Disease.

G. E. PAINE, M.D., Hutchinson

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

The title of this paper is admittedly too broad and indefinite but is chosen for lack of a better one. It is the writer's purpose to limit the subject matter to certain groups of cases where the diagnosis may be much in doubt or difficult to conclude, whether the condition is organic or wholly functional in type. The stimulus for this paper has originated in the study of several cases, some over a period of several months, others for shorter periods, two of which are abstracted below, and an attempt made to emphasize the need of better co-operation, between Surgeon, Internist and Specialist, in the disposition of these types of cases.

Let us consider the following case histories:

No. 1. Woman age 26. Family history negative. Married at the age of 17. Delivered of a stillbirth, full term fetus, one year later. A family quarrel resulted in separation, mother supporting child. Two years ago was badly shaken up in an automobile accident, receiving bruise of neck. Two weeks later complained of nasal trouble and a submucous and tonsilectomy operations performed. Six months later complained of pain in right lower abdomen and appendix was removed which did not relieve her symptoms of appendicitis. One year ago patient developed pelvic pain and one tube and ovary removed plus a suspension of the uterus. The patient became decidedly worse following operation. Flow became profuse and irregular and general nervousness was apparent. At this time she complained of drawing sensations in hands and feet. Four months ago she developed spasms and cramps in hands, arms, neck and legs, averaging ten attacks a day. About this time the patient was aware of an inability to respond to sudden commands by her

employer, but could carry out the same orders by her own volition. One month ago she was unable to talk above a whisper for a period of four days.

Physical examination showed a well developed woman with negative findings except the following: Much tenderness over the abdominal scars, a stocking type of anesthesia extending just above the left elbow and marked concentric contraction and overlapping of the color and visual retinal fields. Laboratory findings negative including Wassermann tests and Radiographs of the skull, taken especially for possible pathology about the sella turcica.

Case 2. Woman aged 38. Family history negative. One child living and healthy. Ten years ago husband became blind following an accident. Since then the wife has not enjoyed happy home life.

Four years ago while visiting relatives, patient developed an attack of acute indigestion following the discovery that she had eaten some canned food which might not have been in standard condition. Was treated for gastritis for a week when symptoms somewhat subsided, but was never free from some gastric distress, consisting of attacks of pain in stomach, belching, bloating and vomiting. After several weeks of misery she received the Sippy treatment for eight weeks and was sent home cured. After a few weeks at home her gastric symptoms appeared and persisted for six months without loss of weight, fever or jaundice, or the usual signs of organic disease. She was persuaded by friends to visit a medical center where a cholecystectomy was done. No gross pathology was found in stomach or gall bladder. The patient was instructed, however, that her symptoms would disappear in from three to five years. Following the operation she felt well for one month, and the gastro-intestinal disturbance reappeared. After a year of apparent mis-

ery, she proceeded to a second medical center and submitted to a gastro-enterostomy, which operation gave her relief for a period of three months when regurgitation of bile appeared and has persisted for nearly a year in spite of all treatment.

In the last six months this woman has had at times a complete hemianesthesia, typical angina pectoris attacks, and at other times various anesthetic areas.

Repeated stomach analyses, gastro-intestinal x-ray examinations, and laboratory work both before and after operations have failed to show any definite pathology. At this writing the pylorus and artificial stoma are functioning. It is the opinion of the writer that a third operation is necessary to break up a vicious cycle, even in the face of an underlying neurosis.

Several studies of the visual and color fields of this woman have been made from time to time, and there has always been some contraction and overlapping of the fields ranging from very marked concentric contraction to the type seen often in pure neurasthenia.

The two cases just quoted have not been selected as a reflection upon the surgery which these two women underwent without relief of their primary symptoms, but to show that the true picture of these neuroses are often manifested beyond the question of doubt only after prolonged observation, and find their way from surgeon, to internist, to neurologist after too much waste of time. They more frequently drift into the hands of foreign cults and become living monuments of faithlessness in medicine and surgery. Many errors of decision will be avoided or reduced to a minimum by less haste of the surgically inclined, and more time well spent in obtaining detailed histories in these cases—even spread over several sittings.

The fact that many of these patients do not enjoy happy home life should prejudice one against organic disease until manifested by some of the cardinal signs, such as fever, jaundice, loss of weight, hemorrhage, dilation of pupils, or the presence of apparent pain, and further correlating laboratory findings such as abnormal, well marked blood find-

ings, urinalysis and often x-ray manifestations.

Further inquiring into the sexual life of the patient may reveal marked sexual aberrations which cannot be lightly ignored, and if corrected, such serious symptoms as a transitory arrhythmia, pseudo-angina, anxiety neuroses, asthmatic-like attacks, nocturnal perspiration, acute diarrhoeas or rheumatic attacks may soon disappear.

The surprising discovery of an anesthetic leg or arm may save one the too frequent embarrassment of trying to explain to the patient that it is not unusual to have some trouble in the right side for some time after the appendix has been removed.

Early in hysteria, neurasthenia and the allied neuroses, such as the anxiety type, there is developed marked changes in visual and color fields and they exist as long as the neurosis persists. It is not necessary to rely on such findings when we see the major types, but in the two cases abstracted, had such been done I believe that the findings would have been convincing enough to throw the balance against organic disease and certainly would have saved much meddlesome surgery.

In conclusion let me again emphasize the crying need for more conservative treatment of doubtful cases and more investigation along the lines indicated.

—R—

The Visual Field in Functional Nerve Diseases.

H. L. SCALES, M.D., Hutchinson

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

The study of the visual field in functional nerve diseases has been given very little attention by the average physician. Even the ophthalmologist neglects the study of these cases unless he is associated with some one interested in psychiatry.

This lack of interest is, in part, due to the commonly accepted opinion that charting the visual field is a very complicated procedure requiring so much special apparatus and study as to be beyond the grasp of the average practitioner. This is to a certain extent true, yet quite valuable information can often be obtained without the help of instruments.

Of course, to obtain an accurate chart of the visual field a perimeter is needed. There are many kinds of perimeters, from the simple hand perimeter to the complicated self registering ones. I use a hand perimeter and, while it takes a little longer time, a very accurate chart can be made.

The fields of vision in neurasthenia and hysteria present rather distinctive phenomena. Changes are by no means always found in these conditions, yet, when found, they are of great value in making a diagnosis. The fields to be observed are white, blue, red and green, the white field being the largest, the color fields decreasing in size in the order named. There is a wide variation in what different men consider a normal field, but for our purpose it may be said that there is a difference of about ten degrees in each field, decreasing from white to blue, red and green. The field in hysteria is in many cases entirely normal, consequently, if a normal field is found, one must not conclude that functional nerve disease does not exist.

The percentage of normal fields in neurasthenia is greater than in hysteria and the changes are not so stable or so marked. In hysteria when changes are found they are usually definite permanent changes that continue as long as the hysteria persists. This is not true of hysterical hemianopsia in which the patient states that he sees only half of an object. This condition is usually only transitory and one writer reports a case that had several such attacks in which the patient stated she "sees only half of everything." Tests were made during these periods and nothing found but slight concentric contraction. Hysterical amblyopia is a more enduring feature and is sometimes very persistent. The essential sign of hysteria, so far as the field of vision is concerned, is concentric contraction. This contraction, to be designated as a stigmata of hysteria, must be found at the first testing of each meridian and not follow the fatigue of examination.

The contraction in functional disease is usually regular in outline in that it does not show the sharply outlined defects that are found in organic lesions, but the contraction may be in only one portion of the field as, for

example, the temporal, while the remainder may be normal. In the color field concentric contraction, while also found, is not the dominating feature.

The inversion and overlapping of the color fields may be considered as almost diagnostic if care is taken in the examination so that suggestion is eliminated. This phenomena furnishes a very unusual appearing field in which the red field may be larger than the blue or the blue in some meridians may be as extensive as the white.

In case one, on the temporal side of the left eye the red was 20 degrees more extensive than the blue while on the nasal side the blue assumed its normal place and the red was probably slightly contracted. This overlapping in the color field may be considered as diagnostic of hysteria, as, so far as my knowledge goes, it is found in no other disease. In neurasthenia the field has many features in common with hysteria but the field most commonly found and the one most characteristic of neurasthenia is the fatigue field. The field will be found early in the examination to be entirely normal but upon continued examination some very marked concentric contraction will often develop. Should this be found, for example, in the green which is very apt to be the case as the color perception is more often defective in the less pronounced colors, a short rest should be allowed following which the field will usually be found to be normal in extent.

Case one has some contraction for white and all colors in the upper field in both eyes. In the right eye the field for blue is as extensive as for white. In the lower field the green overlaps the red showing the so-called inversion of the color field. In the left eye there is the same overlapping of the colors but in the instance the red overlaps the blue the blue in the outer field, being contracted, but in the inner field being as extensive as the white. In this eye the field for green is markedly contracted. This is a typical field as found in hysteria.

In Case two there is slight contraction for white more marked in the right eye. The field for green is markedly contracted in both eyes. In the right eye there is some inver-

sion of the color field the red overlapping the blue in the lower field. In the left eye the so-called oscillating field of Wilbrand is shown for red. This is by some authorities considered as diagnostic of hysteria.

Conclusions. The visual fields are a valuable aid to diagnosis in many cases of functional nerve diseases, but only when taken in connection with other symptoms must they be considered as diagnostic. Care must be taken to ascertain that the eyes are in a healthy condition and that the contractions found are not caused by an organic eye disease.

—B—

The Kahn Precipitation Test for Syphilis.

WILLIAM LEVIN, Dr. P.H.

Director, Public Health Laboratory, Kansas State Board of Health

Read before a meeting of the Kansas Medical Laboratory Association, Topeka, Kansas, December 14, 1922.

The most widely known laboratory test for syphilis, the Wassermann test, depends upon so many variable factors for its performance that serologists have long striven to develop a method that would be simple yet specific, and accurate. The precipitation test has been widely applied in the field of immunology both because of its simplicity and of its specificity. Its application to the laboratory diagnosis of syphilis had been attempted by various workers, such as Meinicke¹, in 1917, Sachs and Goergi², in 1918, and Dreyer and Word³ in 1921. Recently, in May 1922, Kahn⁴ described a precipitation reaction which has several obvious advantages over those advanced by the other workers. It is probably the simplest and the least time-consuming of all precipitation reactions for syphilis, and therefore, easily available to any laboratory worker. It is claimed to be accurate to a remarkable degree⁵, and by some considered even more sensitive than the Wassermann test. The Bureau of Laboratories, Michigan Department of Health⁶, now performs both the Wassermann and Kahn tests on all specimens submitted by physicians for the diagnosis of syphilis.

This paper is a comparative study of the Wassermann and Kahn tests based on the results obtained on 258 blood specimens sub-

mitted by the physicians to the Public Health Laboratory. It is admitted that the number of specimens examined is too small to warrant definite conclusions. Yet the results have been so striking and the findings so in accord with those obtained by the originator of the method that it was considered of sufficient importance to present them to the members of this Association.

The Kahn test consists of the addition of a specially prepared antigen to inactivated serum, thorough shaking followed by incubation at 37° C. A positive serum will show distinct flocculation; a negative serum will remain clear.

PREPARATION OF THE ANTIGEN

Beef heart is freed from fat, fibers, and blood vessels and then ground into small particles. It is then spread in a thin layer on a porcelain or glass dish and dried rapidly, preferably by means of a fan. The dried heart is extracted for several days with liberal amounts of ether, using four or five fresh ether quantities. The extraction is completed when the supernatant ether is freed from coloring matter. The ether is then filtered off and the heart tissue dried at room temperature until no odor of ether is detectable. 5 cc of 95 per cent or absolute alcohol is added per gram of dried material and extracted for nine days at ice box and one day at room temperature. The alcohol is then filtered off and a given amount cholesterinized by adding 4 mg of cholesterin per cubic centimeter.

DILUTION OF THE ANTIGEN

Kahn lays great stress on the method used in diluting the antigen. The physiologic salt solution must be poured into the antigen and mixed rapidly. Pipette 1 cc of the cholesterinized antigen into a small test tube or cylinder (inner diameter about 10.5 mm), and add 3cc salt solution from another cylinder with reasonable rapidity. Shake by inverting back and forth; vigorous shaking is not necessary. The resulting mixture will be slightly milky but opalescent. This mixture may precipitate at low room temperature and is best kept in the incubator when not in use. Sterile precautions are not necessary, but the employment of chemically clean glassware is of utmost importance.

A plain alcoholic antigen may also be employed. In making the dilution 1 cc of the antigen is diluted with 2 cc of physiologic salt solution. The cholesterinized antigen is said by Kahn to be considerably more sensitive than the alcoholic.

THE KAHN TEST

"Measure with a 1 cc pipette graduated in tenths 0.3 cc of clear inactivated serum (one-half hour at 56° C) into a small test tube. Add 0.05 cc of the cholesterinized antigen mixture and shake the tube vigorously for 2-3 minutes. The strongly positive sera will show definite precipitations at this point. After properly mixing the antigen with the serum the racks are placed in the incubator (37.5 C) and permitted to remain over night. The results are read after about eighteen hours' incubation, and without again shaking the rack. The four plus reactions will show either one or several clumps. The three plus reactions will show comparatively large floculi or granules. The two plus reaction will show clumps or granules of a lesser size but large enough to be unmistakable. The one plus reaction is best seen by slanting the tube and observing the upper point of contact between the fluid and tube wall; with proper light a thin layer of fluid with a precipitate floating in it will be seen."⁴

THE WASSERMANN TEST

The Wassermann test employed in the Kansas Public Health Laboratory is a modification of that of the United States Public Health Service. The main differences are: a plain alcoholic extract of luetic heart is used with ice-box fixation, and a cholesterinized antigen with the 37° C water-bath fixation. The total volume is 2.1 cc instead of 4.0 cc. Results are reported as "positive," "doubtful," and "negative," based on the amount of complement fixation obtained with both antigens. In the reports sent to physicians the amount of complement fixation obtained with each antigen is stated together with the result. Thus while the laboratory interprets the result the physician knows upon what findings the result was based.

In his earlier communications Kahn read the precipitation tests in the terms of "strongly positive," "positive," "weakly positive,"

and "negative." At present his reading scale is based on the plus sign as already indicated. For sake of comparison with our Wassermann results the following equivalent values were given the amount of precipitation obtained:

4 + + + + and 3 + + + = Positive.

2 + + = Doubtful.

1 + and no precipitation = Negative.

ANTIGENS USED

Dr. Kahn kindly sent two lots of cholesterinized beef-heart antigens which were used with the first 120 specimens. With the remaining 138 specimens were used an antigen prepared at this laboratory and one prepared by Kahn. The employment of two antigens in the precipitation test is advised by Kahn. It must be remembered, however, that the amounts of blood sent in to the Public Health Laboratory vary considerably in quantity, and on many of the specimens the performance of the Wassermann test alone is possible. There was but little variation in the results obtained with our antigen and those with the Kahn antigens. The Kahn antigen seemed to be somewhat stronger, particularly in the doubtful reactions.

While the reading of the positive and doubtful precipitation reactions is comparatively easy, this is not true of the faintly positive, that is, the one plus reactions. A hand lens of low (3x) magnification was found very useful. According to Kahn, "if the particles are so fine that there is a question as to whether or not they represent a specific reaction, the test may be safely considered negative." It may be stated here that incubation in the dry at 37° C was found preferable to incubation in the water-bath for the reason that the reactions were apparently better defined.

COMPARATIVE RESULTS OF WASSERMANN AND KAHN TESTS

The following table shows the comparative results obtained with the Wassermann and Kahn tests on 258 blood specimens.

Wassermann Test	Kahn Precip. Test		
	Pos.	Dbt.	Neg.
45 Tests gave Positive	40	4	1
23 Tests gave Doubtful	5	8	10
190 Tests gave Negative	1	14	175

223 or 86.4 per cent of all specimens checked by both tests; 33 or 12.8 per cent of all specimens showed relative agreement, while 2 or 0.8 per cent of all specimens did not check. These findings compare favorably to those of Young⁶, of the Michigan State Laboratory made on a much larger number of specimens. Young's results are based on tests made on 5080 Sera.

Wassermann Test	Kahn Precip. Test		
	Pos.	Dbt.	Neg.
1055 positive tests gave	1023	18	14
304 doubtful tests gave	34	200	70
3721 negative tests gave	37	181	3503

There was complete agreement in 93.03 per cent, relative agreement in 5.96 per cent, and complete disagreement in 1.01 per cent of the total. When one takes into consideration that the agreement in the Wassermann tests made by two standard laboratories rarely exceeds 90 per the accuracy of the Kahn test appears more remarkable.

VARIATIONS BETWEEN THE WASSERMANN AND KAHN TESTS

Unfortunately many of the specimens received in this laboratory are accompanied with very meagre if any information or clinical history. An attempt was made, however, to analyze the conditions which caused variations between the Wassermann and Kahn tests. Apparently the Kahn test was slightly more sensitive than the Wassermann test in treated cases of syphilis, but this is based on so few cases that no definite conclusion can be drawn. Below are listed the histories and symptoms in those cases giving variations in the Wassermann and Kahn tests.

Case	Wasser	Kahn	Hist. and Symp.
1	Positive	Negative	Sore on penis.
1	Positive	Doubtful	Sore on penis.
1	Positive	Doubtful	Previous Wassermann test doubtful
2	Positive	Doubtful	Treated cases.
4	Doubtful	Positive	Treated cases
1	Doubtful	Positive	In State Hospital for Insane.
1	Doubtful	Positive	Prostitute.
1	Doubtful	Positive	No information.
1	Doubtful	Negative	Inmate Maternity Home.
1	Doubtful	Negative	Treated case.
3	Doubtful	Negative	No information.
1	Doubtful	Negative	Provocative injection of arsphenamine given; clinical symptoms.

1	Doubtful	Negative	Peculiar pains in head; nervousness.
1	Doubtful	Negative	Eruption.
1	Negative	Positive	Inmate of State Prison
4	Negative	Doubtful	Treated cases.
1	Negative	Doubtful	Eruption; no treatment
1	Negative	Doubtful	Pus in urine.
8	Negative	Doubtful	No information given

SUMMARY AND CONCLUSION

A comparative study of the Wassermann test and the Kahn precipitation test was made on 258 blood specimens received in the routine work of the Public Health Laboratory. There was complete agreement in the two tests in 86.4 per cent of the specimens, relative agreement in 12.8 per cent, and complete disagreement in 0.8 per cent. The Kahn precipitation test is simple, requires few manipulations, and is remarkably accurate. It should not and probably will not replace the Wassermann test, but it should be used to check it. The Kahn test will probably be soon adopted in this laboratory as one of its routine tests. We believe, with Dr. Young, that "to report the two tests to physicians gives them a more dependable laboratory diagnosis than the Wassermann test alone could possibly give."

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Heredity

T. A. STEVENS, M.D., Caney, Kan.

Read before Montgomery County Medical Society, October 20, 1922.

History is the chronicle of the lives and acts of those who have lived before us. Biography is the history of a single individual. Genealogy is the history of the descendants of a person or family from an ancestor. The study of heredity involves the study of all three.

In America, especially in the west, the writers of history and biography have little respect for heredity, but nevertheless, it has much to do in shaping the lives and destiny of men, their health and longevity. The study of the cells, their physiology and their intelligence, convinces me that heredity has a far greater influence upon the lives and works of men than is generally conceded.

A cell is the same in all living organisms, whether found in the hickory tree or in man. So far as known, the only difference is in the intelligence and inherent purposes of the cell. In man and in all animals the spermatozoa and the ovum form a union consisting of one cell; it divides and forms two cells, then four cells, eight cells, sixteen and so on. If of man, under proper environment; it goes to work forming an embryo, a foetus, a living child and finally a matured human being, something like the father and mother, influenced by four grand parents, eight great grandparents, sixteen great-great grandparents, and on and on according to the intelligence of the cell or cells always like its immediate ancestors, influenced by its more remote ones; thus man is a victim of heredity and environment he cannot escape. Other environments are of course necessary—inevitable, and influence every human being, but pale into insignificance when compared to heredity.

Thomas A. Edison has been quoted as saying he would rather be the illegitimate son of that deep chested, broad shouldered drunken blacksmith, than to be the legitimate son of the most intellectual hollow chested, narrow shouldered man in the world—that he could overcome the habits of the blacksmith but never the physical weakness of the intellectual man—perhaps he could, but would he? No, he would continue to be the son of his father and mother. Fortunate indeed is the man who properly picks his grandparents. The man or woman who is intelligent, healthy and strong physically, lives a good and happy life, and dies at a good old age, always respectable, honored by happy

successful offspring, has to thank his ancestry at least 90 per cent.

Heredity influences man in his business or work, he should study the successes and failures of his father and grandfathers.

If a man's work or occupation to him is easy and not irksome, with proper education and preparation for it, he should succeed—otherwise he will fail. The man who can do the work intelligently and honestly, meet all the phases, organize the machinery and keep it properly functioning—never breaking mentally or physically—the Presidency of the United States would be easy work for him. The capacity for work and responsibility vary widely.

One woman may not be capable, without work, worry and irritableness to care for one child; another can care for a dozen, do her own work, besides helping her husband in his work. The difference is in the capacity. One man may be capable of running a peanut stand; another may manage and control the oil business of the whole world; capacity in each case is inherited. All laudable endeavor should be a pleasure and is not over work only to the extent of incapacity, that is to say, that when a man tires, galls in his work or occupation, he has missed his calling.

In our habits, in our religion, heredity governs. The man with no head for it—his phrenology not favoring it, may experience religion and practice it for a time, to sooner or later back-slide. When you learn the views on religion of a man, it is easy to tell something of the practices and beliefs of his ancestors. Why do intellectual fathers some times produce degenerate sons, and men of seemingly low mentality, produce brilliant sons? Men who do mental work in excess of their capacity have used up their mental force to that extent that they have no power to transmit mentality, while men who have some natural mental strength have made little use of it, are capable of transmitting mental power to their offspring, e. g. a noted Governor and Statesman, an extraordinary

brilliant man, had for a father, a drunken loafer. The father of Abraham Lincoln who never had an opportunity, with no education and no occasion for mental work, was in a position to transmit all he had. Why such men like three of the greatest and most powerful Generals, born out of wedlock, could show great mentality, and many other persons, (some of them we may know), born out of wedlock, have shown superior mental and physical health, I do not know, unless their conception is more nearly natural. If the Almighty specially endows them, why should He also favor the "Ketch Colt" which nearly always is superior to the expectations of its owner.

In a study of the Hyde geneology involving 8797 persons, it was found that a tendency to longevity was an inherent characteristic, which probably consists in a strong constitution, and through the superior fecundity of the long lived, tends to improve the vigor and vitality of coming generations. When neither parent lived to be eighty, only a small per cent of the known offspring live to be eighty or older. When one parent lived to be eighty, some larger per cent lived to be eighty or more. When both parents lived to be eighty, a much larger per cent of the known offspring, lived eighty or more years. Thus the attainment of old age is significant, for last survivors of a generation are those who have resisted disease best. This immunity power is inherited and through the superior fecundity of the long lived is distributed very generally in the population.

Insurance companies lay great stress upon the "Family History." They figure that an applicant who is sound physically and mentally should live as long as the sum of the ages of the father, mother and the four grandparents, divided by six—barring of course, unfavorable environments. Some able investigators for insurance companies have concluded that while cancer is in its inception a monstrosity of the cells, it is only partly heredity but is apt to occur in those persons who did not remain in utero the full term, or until full cell development; that the increase of

the prevalence of cancer is due to modern interference in labor, the use of the forceps, etc. The oft repeated history of the Jukes and Hamilton families—Jukes and Hamilton about two centuries ago, young men of the same age, education, physique and health, settled in America, raised large families. Of the Jukes over 1,000 descendants became inmates of penitentiaries, asylums and houses of prostitution, while more than 1,000 Hamiltons occupied positions of trust and influence in the affairs of the country. Where white children have been stolen by Indians or other ignorant people raised by them, grow up far superior to their foster families in habits and intelligence. The cells with which they were bred and born manifest themselves. Thus while it is brought up by Indians, it is not an Indian but a white person, governed and controlled according to the intelligence of its cells. It would help the practitioner of medicine in the diagnosis and prognosis of diseases in adults, to read the family history, much the same as in the examination of an applicant for life insurance, except more carefully and more attention paid to details and with more regard for the habits and the living conditions of ancestors, such as their occupations, financial conditions, etc. While it may seem that man, raised in comfort, throughout life well to do, and no financial worries, should live longer than his less fortunate brother and sister, statistics reveal the contrary. The larger per cent of octogenarians have lived modestly and in moderate circumstances, due in part, possibly, that well-to-do men retire from business younger. It seems that man must continue active, and keep up motion. A wheel will not fall until it stops rolling. While old age is largely inherited, possibly the transplanting of glands may of itself, or from something it suggests, prolong life. They claim the transplanted gland increases hormones by stimulating and invigorating the cells. Transfusion has been practiced with benefit, no doubt with little understanding of how it does it. The introduction of the blood of a young healthy person into the circulation of the aged, may

stimulate and invigorate the older cells, thereby giving new life and longer life. Along this line I expect in the near future, something will develop, making new history in the practice of medicine.

Focal Infections.

B. P. SMITH, M.D., Neodesha, Kansas

Read before the Wilson County Medical Society,
December 11, 1922.

A subject of the magnitude of focal infections should be handled by a man who has made a special study of it, rather than one whose knowledge comes from the occasional observations in a varied practice, yet I may be able to bring out a few points of interest. It is not my idea to intrude upon the ground of any of the specialties that are devoted largely to focal infection but to bring out the points as they appear of interest to the profession as a whole.

The term focal infection covers a vast field and takes up the infections as they may be localized in the various organs. It does not define a clinical entity but rather describes the bacteriological, pathological and chemical processes of invasion and localization of pathological bacteria into the body. It deals with the etiological relation of pathogenic infection to disease processes, both local and general. Specifically speaking, it is the focus of infection or the localized condition wherein some particular organ of the body is the seat of pathogenic bacteria from which the other portions or organs are constantly being oversupplied with these infectious bacteria. The focus of infection is usually a circumscribed region in which these pathogenic microorganisms multiply within the tissues. This focus may be acute or chronic and may be transient or persistent from the standpoint of duration. Yet we may have these foci of infection without either local or general manifestations that will cause any perceptible inconvenience to the patient. It is at this time that we have to consider the ability of the body tissues to resist microorganisms. It is a question that has been much debated but we know that certain people continually resist infectious organisms and are not sick while others are always susceptible to the organisms.

The defenses of the body may be classed as primary and secondary. The primary defense depends upon the integrity of the epithelial covering of the skin and mucous membrane and the chemical nature of the surface fluids, while the secondary defense is built up of the cells of the deeper tissues and the intercellular fluids of the lymph and blood. The white blood cells and the lymphatic glands are the most potent factors. The ability of these structures to wall off and keep in circumscribed areas, is to me one of the most beautiful ways that Nature has devised to protect our body from general infections. For instance, we have all noted this fact in the walled off abscess of the appendix and pus tube and we have each realized what havoc these infections created when this wall was overcome by the increased number of bacterial microorganisms when permitted to continue to multiply. When there is either an anatomical or physiological break in the epithelium it is spoken of as a portal of entry, for without the break in the defense no organism can enter by primary invasion. A portal of entry may occur at any place in the skin or mucous membrane, such as the eye, the middle ear, the respiratory tract, the digestive tract, and the genito-urinary tract. The frequency of the invasion is due largely to the virulency of the microorganisms and the location of the foci.

We may class the invasion as dependent upon the structural integrity of the epithelium, the frequency, extent and duration of exposure to the infectious agent, to the frequency and extent of mechanical trauma, the nature and the number of bacteria to which it is exposed and lastly the factors such as temperature, the traumatic area, moisture, food oxygen supply and tissue reaction which either promote or retard the multiplication of the bacteria. It is from the idea of aiding in making these fields unfavorable to bacterial action that our ideal of antisepsis has made such great progress. In a study of 3900 cases by the University of Wisconsin we have learned that out of this class 57 per cent of the invasions were nasal, 22 per cent tonsillar, 17 per cent oral, 2.75 per cent skin, 1 per cent

genito urinary and .25 per cent were anal. This percentage will be largely governed by different people in different localities and by different modes of living but the list above named serves to give us a working basis from which we can prepare an outline for study and therapy.

We should at all times remember that the place most likely to have a foci of infection is usually close to or at the portal of entry and that our systemic conditions arise as an after action of the primary foci of infection. When we study the mode of infection, we have the blood and lymph acting in a two fold manner. First we have to consider them as being two of the most important factors in fighting the invasion of pathogenic bacteria, but we must now consider them as two of the greatest factors in spreading infections. The lymph and blood streams in their fight to preserve our body may become so laden with bacteria that they cannot cope with them and in one case a lymph node then becomes a secondary focus of infection. In the other case through the blood stream we may have a hematogenous metastasis. Hematogenous invasion from the primary focus is the most frequent type according to the evidence at hand.

Secondary focalization is dependent largely upon two main factors, the lack of localized resistance due to deficient blood supply, trauma and the peculiar predisposition and sensitization of the patient, and the specific elective affinity of the bacteria to the tissues. The first factor mentioned needs no further discussion at this time for we can readily see how trauma and the blood supply are so closely associated, but the special affinity of certain bacteria for certain tissues is one of interest.

Rosenow in a series of experiments with laboratory cultures taken from patients with certain diseases has proven the following: His cultures were taken from cases of appendicitis, gastric ulcer, cholecystitis, myositis, endocarditis, erythema nodosum, from tonsils and spinal fluids in herpes zoster. These cultures were injected into rabbits and dogs with the following results. 14 strains of appendicitis produced appendix lesions in 68 per

cent, which is a marked contrast to 5 per cent in cases not so injected. 18 strains of gastric ulcer produced 60 per cent of hemorrhages and ulcer of the stomach or duodenum, a combined total of 74 cases of 103 injected, in contrast to 20 per cent hemorrhages and 9 per cent ulcer due to other strains injected. 12 strains of cholecystitis produced gall bladder lesions in 80 per cent of 41 animals injected, in contrast to 11 per cent from other strain injections, 24 strains from rheumatic fever produced arthritis 66 per cent, endocarditis 46 per cent, pericarditis 27 per cent and myocarditis 44 per cent, in contrast to arthritis 27 per cent, endocardial lesion 14 per cent, pericarditis 2 per cent and myocarditis 10 per cent injected by other strains. Six strains from erythema nodosum produced skin lesions in 90 per cent in contrast with 2 per cent from other strains, except of herpes zoster. It is well to note here that both skin cultures produced skin lesions. Herpes zoster, 11 strains produced lesions of skin, lips, tongue, or conjunctiva in 77 per cent, in contrast to 1 per cent of other strains. I feel these few statistics are sufficient to carry the point of selective invasion.

We have already mentioned some of the percentages of invasion as given by the University of Wisconsin but I feel lest we forget their importance that I should speak further upon them. The most common tract is the nasal mucosa and the naso-pharynx. We should bear in mind that not all noses or throats that contain pathogenic bacteria are diseased, but are diseased only when the tissues with which they are in contact cease to be self resistant. It is from cases that have become self resistant that we have the so-called carriers. The great cause of secondary infection from nasal foci is due to the fact that there is lack of drainage of the nasal accessory sinuses. We do not mean to take up any therapy in this paper but to only deal with the causes or modes of transit of infection. In one list of cases of arthritis it has been shown that 60 per cent have nasal lesions. We cannot forget to associate nasal lesion with that of tonsillar foci of infection for they so often go hand in hand. The increased amount of lymphoid tissue known as

adenoids is due to continual invasion of bacteria.

In considering the tonsil as a focus, we all know the bad case that comes to us, but I fear we often overlook the seemingly innocent tonsil. So called innocent tonsils are classed along with diseased tonsils which have atrophied or been incompletely removed. They are each the seat of infections. All of us have seen the rheumatic case that was cured or relieved by care of the tonsil, we have seen the child whose increasing deafness was stopped by like treatment. Lest we forget, may I call your attention to the meningeal infection due to frontal sinus trouble.

Oral infections are today studied from every source. No longer does the medical man have to fight this battle alone for the dentists are with us in the fight on oral foci of infection. Irons in a series of 329 cases found that these cases were all suffering from secondary infections and that alveolar abscess was preponderant over other infections, ranging from 23 per cent to 76 per cent in the arthritis group. Langstroth found in 30 cases of gastric or duodenal ulcers, that 44 per cent showed alveolar abscess. In the gastro intestinal tract, the gall bladder is one of the sites of predilection for secondary infection which has invaded the blood stream. We have long ago learned that the bacillus typhosus is one of the most important causes of gall stones, and we should always keep in mind the fact that gall stones and appendix trouble also go hand in hand. Many a case of appendicitis had later been called to the operation table for gall bladder operation because this fact was overlooked. As before stated, the blood stream carries the infection to the liver and here we may have a focus of tuberculosis that later may cause death by tubercular peritonitis.

Mrs. S. In this case I am about to report I feel we have one of the best examples of focal infection that I can state. While it has not been my desire to take up treatment of these cases, I feel, due to the extraordinary condition, that in this case I will later state the treatment given her. This lady is a married woman, age 37 years, weight about 130 pounds, the mother of nine living children,

with a history of three miscarriages, two of which were during the last two years; health practically always ailing and in a run down condition: surroundings of the home very poor. She worked hard as long as able and was not inclined to complain. This woman became pregnant in February, 1922, from which time she had all the complications of pregnancy but albuminuria. Nausea throughout the whole period, being much worse the first five months. At the five month period she became so anemic that she had smothering spells and she thought her heart would stop and became very nervous from fear and difficulty in breathing. At this time she was taken to the hospital for nearly three weeks and given iron and arsenic intravenously every other day for 5 doses. She immediately began to pick up and was dismissed in fair condition being able to wait upon herself. At the seven and one-half month period she developed a very severe uterine hemorrhage, occurring on Sunday morning and again in the afternoon. I was called at both times and as hemorrhage was under control when I arrived no special treatment was given but she was ordered to remain in bed. Upon examination at this date, I gave opinion of multiple pregnancy. On the next morning another hemorrhage occurred and she was again taken to the hospital. No increased temperature was found up to this time but she was very weak and pale. Upon arrival at the hospital her temperature was 99, going slightly up and down until 8 a. m. on Wednesday, when it was 97.4. At 12 noon she had a chill and temperature ran to 102.8. Labor began about 12:30 and she delivered herself without any outside aid but pituitrin 1 cc. Twin boys, both alive, but died in a few hours. The uterus was full of blood clots but no severe hemorrhage after delivery.

I will not endeavor to give you the temperature records in this paper but I have the temperature chart here for your inspection if you so desire. There has been no question in regard to the diagnosis being puerperal sepsis and I feel the toxemia all through the pregnancy had become more intense coming up to the time of delivery. The chart will show you how irregular the temperature ran,

with an occasional chill. Temperature running from times nearly normal up to 105.5, staying daily around 103 to 104.6. Extreme sweating was a marked factor. Date of delivery was Oct. 11 on Wednesday. On Thursday, October 26th, temperature was 105, on the 27th was 105.5. During the period previous to this date, two doctors were in consultation and treatment was given from quinine, salt, permanganate douches intrauterine, to antistreptococcic serum 20 cc. intravenous every other day. On October 28th it seemed that death was inevitable, so after talking with the patient she decided upon my recommendation to ease her lot by being submitted to the surgical treatment of puerperal sepsis. This treatment I find from literature is mentioned by Lusk, Edgar and others, but in so doing they make the surgeon feel he is stepping on almost forbidden ground. They say surgical procedure has been done but picture it so grave that the surgeon from the small town has scarcely the nerve to do even what his judgment says is the thing to do. Permit me to say I felt for at least a week before this time that surgery was the only hope but the procedure was so radical and literature so scarce that I refrained from going into the abdomen. During the year 1921 I read a paper in the Journal A. M. A. in the 1400 pages, in which two eastern men gave a report of surgical procedure in puerperal sepsis. I was very much interested and laid this journal away for special reference but have later thoughtlessly destroyed it. However, this article so impressed me that I remembered it and the statement that, in their opinion, no woman should be left to die when all else seemed to have failed without being given the last chance for her life. If you have this Journal in your office I hope you will look it up and read it and let me borrow it for a time.

I had told the patient her only hope seemed to be in the possibility that we would be able to remove the focus of infection. The culture media that was flooding her blood stream every minute of the day with streptococcic microorganisms. Upon opening the abdomen, we found a greatly subinvolved uterus, both tubes inflamed and the right

broad ligament indurated and cord like at the top and was increased in size until it ran nearly to the kidney. Removal of the entire amount of abdominal female organs was done with the amputation of the broad ligament as high up as possible to go without injury to the kidney and the ureter. Healing was by first intention and the temperature that day only went to 103, the next day 104, the second day later 104. It is interesting to note how the general decline occurred but still plain to show that her blood stream was laden with infection. The temperature at times ran below normal. On Nov. 9, she became very uneasy and began breaking out with urticaria in a very severe form and suffered intensely, temperature running to 104.4. In about 6 days hives were gone and no further trouble of consequence developed but temperature ran the morning of the 19th to 103. She was dismissed on Nov. 26th.

Without a question the focus of infection was the uterus and it is readily seen how the blood stream may become so laden with bacteria that the blood in itself is a source of spreading the infection of the toxins formed by bacterial processes. This case while extreme proves without a doubt that the great thing in the practice of medicine is to find the focus of infection and remove it, thereby giving the opsonins in the blood a chance to develop to such an extent that the blood stream will in itself be equal to the battle against the invading infection.

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Electrotherapeutic Clinic.

A six day clinical course in electrotherapy was given, under the auspices of the Magnuson X-Ray Co. in Omaha, December 11 to 16. There were one hundred physicians from various parts of the west in attendance and from reports received were all well pleased. From a review of the program, one can readily understand the interest manifested by those fortunate enough to attend. The profession generally should be more interested in and better informed upon the subject of electrotherapy. It would not be unwise for our state society to devote a part of the program of its annual meeting to the subject.

BELL MEMORIAL HOSPITAL CLINICS

Surgical Clinic of Dr. Thomas G. Orr.

FAT EMBOLISM

The case presented today will serve to illustrate the importance of fat embolism in surgery.

R. W., Hospital No. 12217, a laborer, age fifty-three, was admitted to this hospital July 21, 1922, with a compound comminuted fracture of the left tibia and a simple fracture of the left fibula produced by falling from the roof of a house. When the patient was admitted to the hospital the broken leg was not splinted for transportation. He was taken immediately to the operating room and the fractures reduced with the aid of the Hawley Table and plaster bandages applied from the toes to the middle of the thigh. No anesthetic was given. He had very little pain during the slight manipulation that was necessary. His general condition on admission was good. He complained of some slight disturbance of respiration, which, we, at that time, attributed to some bruises and abrasions on his left shoulder and left chest wall. Examination of the lungs was negative.

The day following the injury his condition was good. During the night he was unable to void and was catheterized. The urine showed a positive test for sugar. No acetone or diacetic acid was found. His blood sugar was 100 mg. per 100 cc. of blood. His blood count was normal. The blood pressure was 120 systolic and 80 diastolic.

The second day at 9 a. m., about forty hours after the injury, he began to grow somnolent which slowly increased during the day with a coincident rise in temperature to 101, pulse to 120 and respirations to 32. He could be aroused when spoken to, but lapsed immediately into a lethargic state after answering questions. At 6:30 p. m. of the same day he was examined by Dr. R. H. Major who reported Cheyne-Stokes respiration, fine rales at the base of the right lung, and expressed an opinion that the patient had fat embolism to the lungs and brain and beginning pneumonia. The morning of the third day his general condition was worse. He was comatose. Hiccoughs were an interesting ob-

servation during this day. In the early part of the day he would open his eyes when stimulated, but would not answer questions. The pulse increased to 128, temperature to 103 and respirations to 48. The second interesting feature was the discovery of a petechial rash over the shoulders and upper chest. The third interesting observation was the frequent yawning. This would occur at intervals of every few minutes. Perspiration was marked from the onset of the semi-conscious condition.

During the next two days the coma gradually deepened and the temperature and pulse became higher and he died on the fifth day following the injury with a temperature of 108.4. During the entire illness the blood pressure ranged from 120 S. and 80 D. to 162 S. and 100 D. The morning of the last day the blood pressure registered 128 S. and 84 D. There was a definite increase in the leukocyte count and the polymorphonuclear per cent.

The treatment was entirely symptomatic. As drug stimulants he received digitalin, strychnin and caffeine. Twenty-five per cent glucose solution was given in the vein and large quantities of normal saline injected under the skin. None of the treatment seemed to produce any good effects.

Although no autopsy was obtained, we were confident that the diagnosis of fat embolism to the lungs and brain was justified.

DISCUSSION

Fat embolism was first described in 1827 by Magendie¹ who produced it experimentally. Muller² in 1860 and Zenker³ in 1862 reported cases of fat embolism in man. About the same time Theirnesse⁴ described what he termed "Pneumonia Oleosa," which was produced by intravenous oil injections. Many cases have been reported in the literature since that time and the symptomatology and pathology well investigated.

It is quite possible that fat embolism is much more frequent than is generally believed. It is most common following fractures, especially fractures of the femur and tibia. It also occurs following various types of operations which involve fatty tissue, orthopedic manipulations, rupture of fatty

liver, injury to fatty tissues, concussions and burns. The bones of children before the age of seven or eight rarely contain much fat and consequently bone injury before these ages does not produce fat embolism. Osteoporotic bone contains fat and its injury may be accompanied by lipaemia. Males are more frequently affected than females and children.

I am confident fatalities are much more numerous than we generally realize. Many of the fatal cases are attributed to shock or some other acute condition. It has been said by someone that fatty cerebral embolism is responsible for one per cent of the deaths following bone injury.

Warthin⁵ says that the quantity of free fat liberated in the blood stream is often almost incredible. It is well known that large quantities enter the blood vessels at one time following injury. There is probably some lipaemia after all fractures of long bones.

In bone injury cases the fat enters the blood stream from the medulla of the bone. How does the fat get into the blood vessels? It is very likely that the fat enters the blood stream directly, although the lymph channels have been mentioned as a portal of entry. It seems to enter through open veins. In these cases there is often fat and blood mixed at the site of the injury. In a closed wound, the tension is apt to be greater than in the surrounding tissues, thus aiding the taking up of the fat droplets. Following surgical operation poor hemostasis is no doubt of importance. Here the surgeon ligates the peripheral end of the vein and in many cases leaves the proximal end open because it does not bleed. This predisposes to fat imbibition. Frequent moving of the injured parts also is detrimental.

In the distribution of fat emboli in the body no organ seems to escape. The chief general pathologic findings are congestion, small hemorrhages, emboli of fat, infarction, edema and necrosis. Petechial spots on the skin of the chest and arms are characteristic and of considerable diagnostic importance. Fat droplets are often observed in the sputum and urine. They can also be seen in the vessels of the eye.

The most frequent pathology is in the lung where the emboli produce infarction, edema, small hemorrhages and often broncho-pneumonia. The capillaries are found filled with fat droplets. Cut surfaces of the lung exude fat. Many other tissues, especially the heart, brain, and parenchymatous organs show similar lesions with degeneration. Emboli have been found in all parts of the nervous system associated with hemorrhage, small infarcts and areas of necrosis. The fat reaches the brain through the capillaries of the lung which permit its passage into the general circulation.

Under symptomatology we shall consider only lipaemia which produces definite clinical symptoms. If all excess fat in the blood stream produced symptoms, I am sure we would all have many opportunities to study the condition. It would be one of the most common complications of surgical operations and trauma. The appearance of symptoms seems to depend definitely upon the quantity of fat in the blood stream at one time. They vary according to the organ which is chiefly affected by the emboli. The brain and the lung can stand a relatively large quantity of fat before symptoms begin.

When embolism is suspected the lung and brain are the first organs to be considered because here the chief clinical findings appear. Warthin⁵ also emphasized a cardiac symptom complex in which death may be sudden, due to an exhaustion of the heart from a collection of fat in the right ventricle which it is unable to drive on into the pulmonary circulation. In addition emboli in the vessels of the heart may impede its action and interfere with its nutrition. If the heart fails the arterial pressure fails, the venous pressure rises and the heart rate becomes rapid and irregular. The heart symptoms have not been as strongly emphasized as those of the lung and brain. However, I believe that in these cases this should be constantly kept in mind and the heart function carefully observed. Emboli to the lung are much the most common. The characteristic signs and symptoms depend upon the rapidity of the onset and severity of the damage. Usually there appears dyspnoea, cough, blood

stained sputum, pulmonary edema and, in the rapidly fatal cases, asphyxia. The physical signs are those of edema and broncho-pneumonia. The onset of the cerebral symptoms, which occur between two and eight days after the injury, is characterized by restlessness, mental anxiety, somnolence and coma. Delirium often occurs and simulates delirium tremens. There have been noted paralysis and convulsions. If the onset is gradual, there is a rise in the temperature and pulse which increases as the symptoms develop. Timmer⁶ describes a case of fat embolism to the brain in a girl of seven, which manifested itself by epileptiform convulsions forty-six hours after the reduction of a double dislocation of the hips. The duration of the convulsions was two and one-half hours. Following this all symptoms completely disappeared.

In the consideration of embolism in general, Dennis⁷ has made the terse remark, which has some value, as follows: "Shock three hours, fat embolism three days and pulmonary embolism three weeks."

Fat can be demonstrated in the urine for two or three days following many fractures of the long bones. Fat droplets in blood stained sputum are frequently found. Also phagocytic cells containing small fat droplets may be observed in the sputum. Fat embolism producing immediate or sudden symptoms is difficult to diagnose. There is very little doubt that some of the sudden deaths are due to this condition. Shock is very closely allied to fat embolism. Porter declares that fat embolism is the most frequent cause of shock on the battle field. He does not believe that it can be explained by emboli to the lungs alone. In his experiments with oil injections he has demonstrated a fall in arterial blood pressure and the other symptoms of shock. By introducing small quantities of olive oil into the central end of the vertebral artery he has produced shock and infarction of the brain in the vaso motor region. He states that shock is more frequent after shell fracture of the femur and multiple wounds through the subcutaneous fat and believes this some evidence that fat embolism is its cause. It

seems that it would be wise to accept this view of shock with some reservation.

In making a diagnosis of fat embolism such conditions as shock, concussion, pneumonia, diabetic coma, uremia, delirium tremens, status lymphaticus, apoplexy, extradural hemorrhage and perhaps other brain and lung conditions should be excluded. Brain and lung symptoms arising after injury, operation or surgical manipulation, should always suggest to you the possibility of fat embolism. Fat in the urine, fat in the sputum and fat in the retinal vessels are the three clinical facts which should be repeatedly sought for diagnostic evidence. The fourth sign of value is petechial hemorrhage in the skin. In the slowly developing cases there is a gradual rise in temperature, pulse and respirations. In the cardiac, pulmonary and cerebral complexes, restlessness, stupor, coma, dyspnoea and cough are more than suggestive. The course of the disease may be rapid or slow. The quickly fatal types have been described as apoplecticiform. They result in death immediately or within a few hours. In this type the autopsy will probably determine the diagnosis. The slower type may end fatally or recover, depending upon the severity of the lesions and the resistance of the patient.

In the case here reported the diagnosis was made from the evident fracture, followed by the stupor, coma, positive lung findings, petechial rash, rise in temperature, pulse and respirations. The fat droplets were not observed in the sputum or urine. A more frequent examination might have revealed them. We did not consider the glycosuria found as of importance, because no acetone or diacetic acid was found and the blood sugar was within normal limits.

The prognosis in patients such as ours is consistently bad. I believe, however, that many cases that recover are not recognized as fatty embolism, but these are not the worst cases. Warthin believes that the largest proportion recovers. This of course includes the mildest types, which are probably by far the most frequent.

The treatment is unsatisfactory after the symptoms develop. Very likely most of the

damage is done before the symptoms appear. Prevention is very important. Injured parts should be manipulated as little as possible. Hemostasis at operation should be good. Wounds that are likely to contain fat and blood should be drained. The treatment is largely symptomatic. A number of different methods of treatment have been tried with somewhat varying results. Injections of 2 per cent sodium carbonate have been suggested, but are very probably useless. Venesection and intravenous injections of salt solution have been used. The latter may be of some value. Wilms drained the thoracic duct to eliminate the fat, which he considered entered the blood stream by absorption through the lymphatics. His patient lived. The Wilms' treatment is of doubtful value, because it is now generally believed that fat enters directly into the blood vessels.

In conclusion I should like to leave with you the following thoughts:

1. Lipaemia is very common following fractures of long bones, surgical operations, orthopaedic manipulations and other injuries involving fatty tissue.

3. Postmortem examinations upon post-operative and traumatic cases should be carefully made with the pathology of fat embolism in mind.

4. In making the diagnosis the three clinically visible fats, namely; fat in the sputum, fat in the urine and fat in the retinal vessels, should be remembered.

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"Psychic Epileptic Insanity" was the defense council's plea for immunity from punishment of their client, a murderess, who hammered her victim to death because she was jealous of her.

The case was tried in the Los Angeles County Court Nov. 10, 1922. Five alienists, in good standing in the regular medical profession, testified in the court that she is insane. An equal number of specialists and alienists testified in the trial of the case, that the murderess is sane. The onlookers at the trial and the acquaintance of the defendant say she is sane.

The public is constantly witnessing these stunts put on the boards in the courts by the regular medical men; and staged to the queen's taste for the courts and the people.

California and other states have shown by their electorate that osteopaths, chiropractors, Christian scientists, mind readers and the whole so-called medical profession is classified as one and the same thing—a helo-vabunch.

There is a growing sentiment in the legal fraternity and the medical to do away with insanity as a defense in criminal cases. As the law is, "the defense of insanity is a trap for the insane, and a way of escape for the sane criminal. Judges and courts should study criminals as well as criminal law."

Alienists should learn to differentiate with more certainty between the criminally insane and the insane criminal who is not insane, or quit disgracing the rational medical profession.

If a man can wish himself sick why can he not wish himself well? There are authenticated instances where persons have been made sick by suggestion and where the sick have been made well. The mental state of the physician when visiting his patient is a factor and has to do with the success or failure in his treatment.

Sauerbruch is quoted as saying that "cancer is the local manifestation of a constitutional disease. We must go back to the humoral conception of life. Virchow, who on a solidistic basis, taught that all the constitutional manifestations of cancer were secondary to the local lesion, is shown to be wrong, and that the old humorists are in line with modern progress."

THE JOURNAL

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Sensible Legislation.

It is to be expected that during the coming session of the legislature a number of bills will be introduced regulating the practice of medicine. Before we become too enthusiastic in our efforts to secure further legislation of this sort it would be well for each of us to read carefully a paper that was read by Frederick R. Green, M.D., before the section on "Preventive and Industrial Medicine and Public Health," at the last meeting of the American Medical Association, and published in the *Journal* of that organization Sept. 23, 1922. Dr. Green has given a great deal of time and thought to the subject of medical legislation and some years ago published an abstract of all the medical practice acts in force at the time. He also made a digest of some eight hundred supreme court decisions on state regulations of the practice of medicine. His paper plainly shows that he has taken a practical unprejudiced view of the question. Space does not permit a complete reproduction of this paper but a few extracts may be permitted:

"The final decisions of the courts of last report are recognized as final authority on any legal question. What are the conclusions which can be drawn from the opinions of the various supreme courts on this subject?

"They hold that the sole justification for the enactment of medical practice acts is the

protection of the public from incompetent and unscrupulous persons; that the state has a right to enact laws making any reasonable standards for the practice of medicine; that the object of such laws is not the benefit of the physician, but the protection of the public; that it is not the function of the state, through either its legislature or its courts, to decide scientific questions or to determine the scientific value of one school or method of practice as compared with another, or to decide the relative value of different forms of treatment; that the sole interest of the state in the practice of medicine is the regulation of medicine as a business; that the legislature is justified, for the public good, in establishing and enforcing reasonable regulations under which such business may be carried on; that the qualifications and conditions exacted must be reasonable and equitable and must be the same for all those who desire the same privileges, and that the function of examining boards is to test the qualifications and knowledge of applicants in order to determine whether they may be properly entrusted with the treatment of the sick. . . .

"Each state has on its statute books a medical practice act, which has been secured at great expense of time and labor on the part of physicians. It is in constant need of defense; it is not effective in accomplishing the purpose for which it was enacted; it is not understood or supported by the public for whose protection it was passed; it is of no special value to physicians because it handicaps the honest practitioner, but does not deter the faker or the charlatan, and it does not prevent any new sect, which may arise, from overriding its provisions. The public, feeling that such laws are for the benefit of physicians, is not and never has been especially interested in their enforcement.

"By our insistence on the passage of these laws and through keeping their administration in our own hands, we have strengthened and confirmed this public misconception. As a result, we now have a cumbersome and ineffective machinery, supported largely at the expense of physicians, which has to be defended continually against assault, which occupies a large part of our time and energy, which might better be devoted to better purposes, keeps us in a false position before the public and arouses and keeps alive antagonism against the medical profession. The present laws do not accomplish the purpose for which they were created, and the efforts to adopt and administer them have in many states dragged the medical profession into politics and have prostituted our scientific or-

ganizations without any compensatory benefit to us or to the public.

"But, with the exception of the child, the insane person and the person suffering from a disease dangerous to others, any sane adult who has a bodily affliction which is not a danger to others has a right to control his own body and to take such treatment or refuse such treatment as he may see fit. If he wishes to consult an osteopath, a chiropractor, a Christian scientist, a voodoo doctor, a witch doctor or a pow-wow doctor; if he wishes to treat his rheumatism by carrying a horse-chestnut or a potato in his pocket; if he prefers incantations to scientific treatment; if he likes prayers better than powders, or if he wants charms rather than surgery, he has a perfect right to do as he sees fit, and the state has no right to compel him to submit his body to any treatment that he does not desire. If he errs through ignorance, he must suffer the effects of his own poor judgment, just as he would in any other activity in life. Physicians must recognize this right on the part of the layman, just as they assert their own right to individual judgment on other questions.

"Does this mean, then, that there should be no regulation of physicians or sectarians? By no means. Undoubtedly, there should be intelligent and equitable regulation by the state for the public good. What, then, is the remedy for the present absurd and unsatisfactory situation? It is for the medical profession to surrender to the public a function and a responsibility which it never should have assumed. If the people, for their own protection, desire to impose certain restrictions on those who wish to treat the sick as a profession for compensation, then it is the business of the public to determine the conditions and administer the machinery by which such regulations shall be carried out. Whether an individual is qualified to treat the sick is an educational and not a sectarian question. Its enforcement should be in the hands, not of physicians, but of the educational authorities of the state.

Having complied with the requirements of the state, which should be as high as they can be made, consistent with the public welfare, and having received a license, each person so licensed should be at liberty to follow any method of treatment or school of practice he may see fit, subject only to the common law limitations on professional responsibility. Any physician who undertakes to treat the sick is subject, under the common law, to definite liabilities for the character of his treatment and of his services. But there should be one standard for all, and the

task of defending such laws and elevating the standard belongs to the public and not to physicians. If the rights of physicians are invaded, then we can go before legislative bodies and frankly and openly fight for our own interests. If the requirements are unfair or unreasonable in any way, then physicians can, with perfect consistency and with a clear conscience, appear before legislative committees and insist that reasonable provisions be adopted. But the protection of the public belongs to the public itself, and it can be safe in no other hands.

It is difficult to understand when or how the fiction arose that the medical profession is a divinely authorized and chosen class, charged with the protection of the public health and public welfare, even against the desires and the wishes of the people themselves. Such a doctrine savors far too much of imperialism to be particularly popular at the present day."

One may readily grant that the question of qualification to treat the sick is educational and not sectarian, but there is another factor of considerable importance in determining qualifications to treat the sick and this for lack of a more comprehensive term may be called the moral standing of the applicant for that privilege.

There can be no question as to the justice and necessity of a single standard of educational requirements for all those who are permitted to treat the sick. Nor can there be any serious question as to how the regulations should be administered. The purpose of all such laws is evaded when they are administered by each sect for its own followers.

Since such regulations are for the protection of the people, the cost of their administration should be borne by the state, but this principle has not been recognized in the regulation of other professions and trades and it is to be expected that the medical profession will continue to be assessed in license fees or otherwise for the purpose of financing the administration of whatever regulations are adopted.

Through what medium the state should enforce the regulations is a question about which there is likely to be much difference of opinion. Dr. Green's suggestion that the educational authorities of a state should constitute the administrative body should be given very serious consideration. It is perhaps the only chance for a nonpartisan board.

Promises vs. Results.

If a chiropractor or an osteopath has cured, or apparently cured, a case that a regular physician has failed to cure, one should not blame the chiropractor or osteopath, nor the patient. The probabilities are that the regular physician did not give the case the thoughtful consideration it deserved. It does not help the physician, under those circumstances, to tell the patient or his friends that the chiropractor has only had a few weeks or a few months training.

How can one convince them that his superior knowledge acquired through years of study and experience, is of more value to them than the skill of the chiropractor acquired through a few months instruction? People usually go to a doctor because they believe they are ill and want to be cured. The doctor that cures them gets all the credit and is to them the seer of medical wisdom. Most people still believe that faith in their doctor is of more importance than a knowledge of his qualifications for practicing the healing art. A great many are still ready to put their faith in the man who claims to have received his medical knowledge direct from God, or the man who, as a special favor for service rendered, has been trusted with the secrets of some great Indian medicine-man, or the man who, being the seventh son of a seventh son, has the inherent instincts of the healing art—in these as readily, perhaps more readily, than in the men who have spent four, six, a dozen years, in acquiring such definite knowledge as may be acquired from the accumulated records of several centuries and the experience of their teachers and fellows.

If the doctor is unable to compel such "faith" as the masses seem to think essential he must fall back upon his ability to cure their ills. If the patient believes he has a disease which he has not, the doctor must cure him of his belief. If the patient has a patholesia, he must cure him of that. If the patient has a pathomimesis, cure him of that. If the patient has a real pathologic lesion he must cure him of that if it is curable. But first, one must learn whether the patient has simply a belief or whether he has a patholesia, a pathomimesis or a pathologic lesion

and its nature, but this is not always possible. There are many patients one might cure if he knew or could find out what ailed them; on the other hand there are many patients one tries to cure, that he would know he could not cure, if he knew what ailed them. No patient was ever cured by Christian science that could not have been cured by a physician had he made a correct diagnosis and used the proper treatment. No patient was ever cured by an osteopath, a chiropractor or a medicine man that could not have been cured by a physician if he tried hard enough. The cults have no advantage in the matter of diagnosis. They have simply evolved a theory of disease to add scope to the adaptability of their special modes of treatment.

If an osteopath or a chiropractor can cure any cases that a physician cannot cure then there is something of merit in his special method of treatment. If there is any merit in his method of treatment then every doctor should know about it and use it wherever it will serve the purpose of relief.

One should always keep in mind the non-exclusiveness of the practice of medicine. There is no remedy and no method of treatment that has proven to be of any benefit that may not be used by the physician, with only the restriction that he shall know what its effects may be and know how to use it properly.

The advertising propaganda which is being pushed by the chiropractor emphasizes two claims: first, that they have evolved a theory of disease—that disease is a "body disharmony with the life intelligence force;" second, that they are able to restore to health people that physicians have failed to cure. This theory of disease means nothing to them or to anyone else, but it answers the purpose—it enlarges the scope of the adaptability of their particular methods of treatment. Their second claim is up to the practitioners of medicine to prove or disprove, not in the newspapers, nor in circular letters, nor on the public platform; but in the sick room, in the hospital or in the dispensary. If the physician, with his knowledge of the human body and its functions and disfunctions, of pathology and pathogenesis, fails to disprove

their claims, then there must be something in their method of treatment that the medical profession should acquire.

CHIPS

"Haemoglobin is to the human body what chlorophyll is to the plant."

The claim is made by vegetarians that carnivorous animals require more sleep than herbivorous.

In some states Chiropractice is recognized as a lawful profession. In other states of the American Union the practice is a felony.

And now comes Harvey Ernest Jordan and says "many cases of stammering and stuttering in children are, no doubt, the result of the forcing of constitutional left-handed individuals to become right-handed. It is conceivable that such disturbance of a natural combination of functional cerebral centers may be the predisposing cause of many nervous disorders." If the child is left handed let him alone.

Why did Mrs. Harding live? Because she had a constitution strong enough to overcome the disease and all interference from meddling. Why do so many important personages live out their expectancy when they get sick? They don't. Meddlesomeness and notoriety kills them. Too much fussiness. Then trust the home doctor with minimum outside frills.

The California State Board of Health asked the schools, churches, industrial plants and all others who are interested, to observe December 8, 9 and 10, 1922 as health days. The purpose is to increase interest in health examinations. The purpose of these examinations is not to correct the pathological findings, only, when they can be corrected or modified, but to teach the afflicted ones that they are suffering from the effects of wrong living for the most part and to teach them right living. The majority of their ailments are avoidable.

Recently one of the popular pharmacists in Topeka sent samples of a patent medicine

to his patrons including the doctors whose prescriptions he fills. In the letter accompanying the samples, he says: "We believe that when you have tried them, you will find they have exceptional merits, and will say that they are the best medicine you ever used for constipation and defective elimination."

A pamphlet was also enclosed in which we learn something of the origin of the wonderful remedy. The manufacturer says: "I know from experience in filling hundreds of prescriptions that the usual medicine prescribed by doctors for people who were "just ailing" was a few doses of calomel or a good physic, or both. Knowing calomel to be a mineral salt that was dangerous to use indiscriminately, I did not like to give it, but I had in my files a splendid prescription for a harmless vegetable medicine which I prepared for people frequently. * * * That is the beginning of the medicine you and millions of others know. * * * I made and sold it for thirty years. The prescription is the same as it was then."

An organism has been discovered by Helen B. Flynn in both carcinoma and sarcoma (Ill. Med. Jr., Dec.) which she believes to be the cause of malignancy. She was able to make cultures and inoculate rabbits and guinea pigs in which a retroperitoneal mass developed—small round celled in character. These organisms are found in 100 per cent of all cases of carcinoma or sarcoma; they are 100 per cent pathogenic to rabbits, guinea pigs and white mice. They are found in the blood of patients suffering from malignancy in the early stages as well as tissue before definite changes are present. The pathologic process is developed by the organism attaching itself to or entering a cell, a polynuclear or wandering cell engulfs the whole, the wandering cell is overcome and the epithelial cell or connective tissue cell lodges and proliferates under the stimulus of the toxine.

The Second International Conference on the Standardization of Serums and Serological Tests of the Health Committee was held under the auspices of the League of Nations, November 20-26 inclusive at the Pasteur Institute in Paris. Professor Theodore Mad-

sen, President of the Health Section of the League of Nations presided at the Conference. Opening addresses were made by Dr. Roux, the discoverer of diphtheria toxin, and the French Minister. Dr. Augustus B. Wadsworth, Director of the Division of Laboratories and Research of the New York Department of Health, represented the Rockefeller Institute.

Leviton (American Physician) says: "The real origin of the asthmatic syndrome is in all probability of a bacterial nature. The tendency in many quarters to believe that the majority of cases of asthma are due to protein and pollen sensitization is stimulated by an honest over-enthusiasm."

It is more troublesome when we have several meanings for one word than when we have many words with the same meaning. There are few things that cause more confusion in medicine than the unrestricted use of terms. But our medical writers grow more and more indifferent to definitions accepted, and unwarrantedly broaden the meaning of words that should be restricted in their use and coin words to express meanings that are better provided for in an ordinary vocabulary.

"No one whose work is in the field of child welfare can look back on a period of unemployment without feeling that in the last analysis its burden falls very heavily on the shoulders of the children," says Grace Abbott, Chief of the Children's Bureau, in her annual report to the Secretary of Labor made public today. The bureau studied the effects on children's welfare of the unemployment period last winter in a middle western and a New England city, and Miss Abbott states her conclusion that the lowered standard of care for children during such a period must result in permanent losses to the community. In these cities many families having two or more children were spending less than \$50 a month, including store credits. In one of the cities a budget estimate of the amounts of food, clothing, fuel, and sundries required for families of different size and age had been prepared by a large manufacturing firm, and

for half the families in which comparisons were made the average monthly receipts from all sources during the unemployment period, including relief, were less than 50 per cent of this estimate.

Hypophyseal symptoms are less frequent in acquired than in congenital syphilis. Of the 16 cases recorded by Nonne (*Deutsch Ztschr. Nerv.*) 14 are of congenital syphilis. Among the latter, 4 cases presented the picture of dystrophia adiposogenitalis, with or without intellectual and psychic defects. Polyuria was another hypophyseal symptom observed in some cases. Three cases concern syphilis in the third generation. In 2 cases the picture was that of so-called infantilism. It was possible to exclude infection, trauma, tuberculosis, heredity, and tumor; nor were there any indications of polyglandular disease, so that it seems justifiable to attribute the hypophyseal affection to syphilis. In 3 cases of congenital syphilis, good results were obtained with specific therapy, and in 1 case with specific therapy in combination with organotherapy. There are abortive as well as pronounced cases, and purely hypophyseal cases as well as cases with polyglandular insufficiency. The pathologic anatomy of these cases has been studied by Simmonds. The functional disturbance may be caused by a gumma of the hypophysis, hydrocephalus which is so frequent in congenital syphilis) being a favoring factor.

David (*La Medicine*, 2-20) concludes that it is necessary, in a case of "essentielle" epilepsy, to apply the antisiphilitic treatment by using alternatively; iodides, mercury (chiefly intravenous injections of cyanide of mercury) and arsenic. This last is to be administered by one injection of 0.10 centigrammes daily for ten days; then ten injections to be repeated after a fortnight's rest and so till all the symptoms have disappeared. To a sucking baby five drops of hectine daily during a week, to be repeated after a week's rest. The treatment must be begun as soon as possible in as large doses as possible, and continued as long as will be necessary. It is important to know that at the beginning of the treatment, especially with the hectine treatment, the at-

tacks may, for a time, become more frequent and more severe (Time!), and the parents beginning the cure.

—R—
SOCIETIES

STAFFORD COUNTY SOCIETY

Society met in St. John December 13th. Dr. W. L. Butler presiding. Members present: W. L. Butler, J. C. Butler, Stafford; M. M. Hart, Macksville; C. S. Adams, L. E. Mock, J. T. Scott, St. John. Dr. J. L. Nevin of Kinsley was a guest of the society and read a paper on Sero-Fibrinous Pleurisy which was thoroughly enjoyed and discussed by all present. The election of officers for the ensuing year resulted in the selection of Dr. M. M. Hart, Macksville, President; Dr. L. E. Mock, St. John, Vice President; Dr. J. T. Scott, St. John, Secretary. Dr. Nevin was elected to membership in the society, transferring from the Ford County Society.

J. T. SCOTT, Sec.

BARTON COUNTY SOCIETY

The Barton County Medical Society has been meeting on the second Wednesday of each month, except during July and August. We have made very little noise about it, but have had very good meetings.

Early in the year we had the Wirthheim Obstetrical films and a plate lunch. We had ten or fifteen from other counties in attendance.

Dr. Marion Trueheart, of Sterling, gave us a very interesting lantern slide demonstration of the results obtained in using radium, at our September meeting. Dr. Frank Lightfoot, of Great Bend, eulogized the memory of our late Vice President and pioneer at this meeting.

The October meeting was made very valuable by Dr. R. Lee Hoffman's discussion of "Diverticuli of the Urinary Bladder." (Dr. Hoffman is from Kansas City, Mo., but is a Kansas product.) The Van Noy Hotel at Hoisington served an excellent dinner after this program and Dr. Hoffman was raced back to Great Bend to catch the train so he could hurry back to Kansas City to study up on his "golf" rules.

The December meeting was a "whiz" with Dr. Wm. L. McBride, of Kansas City, Mo., representing the Dermatological Department of the University of Kansas School of Medicine, in a Skin Clinic on the afternoon of December 13, at the Great Bend Chamber of Commerce rooms.

Drs. Jury, Hawes, Zugg and Wheeler came very near "ganging" on Dr. McBride on account of an old grudge, dating back to training camp days at the M. O. T. C., Fort Riley, when he used to hike them about twenty miles a day. Dr. Jury insisted that Dr. McBride is a "hound," to which allegation Dr. Stinson took exception on account of his being well acquainted with him as a classmate. Doctor Jury still insists that if some of the other fellows had followed him on some of those "hikes" they would agree with him.

Those present from other counties were: Dr. N. W. Robison, Bison; Dr. J. H. Staatz, Bushton; Dr. J. T. Scott, St. John; Dr. F. S. Hawes, Russell; Drs. M. DeTar and W. P. Stoltenberg, Kinsley; Dr. F. E. Wallace, Chase, and the following from Barton County: Drs. Frank Lightfoot, E. C. Button, C. W. Zugg, B. L. Stinson, C. J. Miner, M. F. Russell, H. C. Embry, L. J. Wheeler, and E. E. Morrison, Great Bend; Drs. H. W. Jury and E. A. Haas, Claflin; Drs. C. W. Lyon and A. R. Haas, Ellinwood; Dr. Wm. C. Bundrant, Pawnee Rock; Drs. B. S. Pennington, E. H. Atkin and T. J. Brown, Hoisington. LEROY J. WHEELER, Sec.-Treas.

FORD COUNTY SOCIETY

At the annual meeting of the Ford County Medical Society, the following officers were elected for the year 1923:

President, Dr. T. L. McCarty, Dodge City,
Vice President, Dr. F. M. Coffman, Ford.
Secretary-Treasurer, Dr. W. F. Pine, Dodge City.

Delegate to State Convention, Dr. C. E. McCarty, Dodge City.

Alternate, Dr. G. W. Hollembeak, Cimarron.

Censors: Dr. F. M. Coffman, term expires 1924; Dr. G. W. Hollembeak, term expires 1925; Dr. G. O. Spiers, term expires, 1926.

W. F. PINE, Sec.-Treas.

RILEY COUNTY MEDICAL SOCIETY

The Riley County Medical Society met at the Gillett Hotel at 6:00 p. m., December 18, 1922. Following the dinner, the meeting was called to order by President C. F. Little. The minutes of the previous meeting were read and approved.

The following members were present: Drs. Bressler, Cave, Clarkson, Colt, sr., Colt, jr., Evans, Groody, Hepler, Belle Little, C. F. Little, Mathews, Reitzel, Ross and Siever.

Election of officers: Dr. Colt, Jr. was unanimously elected president. Dr. J. R. Mathews was unanimously elected vice president. Dr. J. W. Evans was unanimously elected secretary and treasurer. Dr. W. M. Reitzel was unanimously elected to the Censor Board for the next three years. Dr. C. F. Little was elected as delegate to the State Convention.

Report of Committees: Dr. Hepler reported that there was an ordinance in force charging license fees to traveling "quack doctors." Committee was dismissed. Dr. Colt, Sr. reported for the committee in regard to Dr. Martin's case and the report was accepted and the committee continued.

New Business: The matter of entertainment and banquet for the Golden Belt Medical Society was discussed. Moved and seconded that a committee on arrangements be appointed and the matter left entirely in their hands.

It was moved and seconded that a committee be appointed to audit the Society's books. Motion carried. Committee appointed as follows: Drs. Bressler, Mathews and Colt, Sr.

The matter of cutting down the length of the programs at the meetings was discussed. Moved and seconded that the program for the coming year be limited to one paper from some member of the society at each meeting with the exception of every third meeting at which time the paper was to be presented by some outside man. Motion carried.

Program: Dr. Bressler made a few remarks in regard to the present form of medical services offered the students at K. S. A. C. and a possibility of a change being made in the near future. This brought out lengthy discussions by all members present. It was

moved and seconded that a committee of three be appointed to confer with the doctors connected with the College and to formulate suggestions for changes in the present method which were to be presented to the society and voted on by them and if accepted sent with the endorsement of the Society to the proper state authorities. In the discussion it was suggested that the names of the members of the committee be included in the motion. Motion amended as follows: Committee: Drs. Bressler, Evans and Ross. Motion and amendment carried. Adjournment 8:30 p. m.

J. D. COLT, JR., M.D., Secretary.

ELK COUNTY SOCIETY

The Elk County Medical Society met at the New Howard Hotel, Howard, December 21, at 6:30 p. m., where dinner was served to the members of the society, their wives and guests.

The feature of the evening was a lecture given by Dr. Opie W. Swope of Wichita, on the present status of x-ray, radium and surgery in the treatment of deep seated cancer. The lecture was of unusual interest, as the cancer problem is one of increasing importance, deep massive doses of x-ray seems to hold out hope to many inoperable cases. Several negatives were shown to prove the value of this treatment. Dr. Swope treated his subject in a masterly way, bringing to us the latest and most advanced technique in the treatment of deep seated malignancies.

Dr. D. W. Basham of Wichita, opened the discussion with a review of the history of the surgical treatment of cancer. He also expressed his approval of the deep massive x-ray treatment of cancer, and brought out many helpful suggestions in differential diagnoses of benign and malignant growths of the breast.

A summary of the cancer problem as brought out by Drs. Swope and Basham was as follows: First, education of the public; second, early diagnosis; third, combined early excision and x-ray treatment; fourth, massive doses of deep x-ray treatment in inoperable cases.

The next meeting of the Society will be held at Howard, January 17, 1923.

Miss Olive Bush, violinist, and Miss Phyllis DePew, pianist and vocalist, furnished the music for the evening. Miss Bush is a violinist of ability, and Miss DePew is a student of the Musical Department of Fine Arts, Kansas University. The society is very much indebted to them for their very efficient assistance in the entertainment part of the program.

On behalf of the society I am requested as secretary to extend to Mr. and Mrs. Henry Pries, our thanks and appreciation for the use of their parlors for the meeting.

F. L. DEPEW, Secretary.

WILSON COUNTY MEDICAL SOCIETY

The Society met December 11, and after banquet at high school, the members adjourned to Doctor Flack's office.

The following officers were elected: Dr. O. D. Sharpe, Neodesha, president; Dr. A. C. Flack, Fredonia, vice president; Dr. E. C. Duncan, Fredonia, secretary and treasurer; Dr. F. M. Wiley, Fredonia, was appointed committee of one on necrology; Drs. Addington, Smith and Butin, censors.

Dr. A. C. Thomas' application being reported on favorably by censors, was duly elected.

Drs. Wiley, Duncan and Sharpe were elected a committee to arrange for Dr. Bohan to meet with us at some near future date.

Dr. Sharpe reported a case of toxic goitre. Free discussion followed and it seemed to be the prevailing opinion that the quinine hydrobromide combined with various drugs to suit the individual case, is the logical treatment.

Dr. B. P. Smith read a paper on focal infections and reported a case of puerperal sepsis which was making headway toward death in spite of vigorous treatment. Death seemed not far distant, when it was decided that as a last resort, removal of the focal infection, viz., the septic uterus. This was carried out, removal of uterus, tubes and ovaries, together with the immensely thickened right broad ligament. The patient made a more or less stormy convalescence but left the hospital perfectly well, all wounds healing by practically first intention.

Dr. R. K. Dodge talked to us about the "Little things in Medicine," and the talk was so good that we have established a permanent department for our society entitled "Little Things in Medicine." Dr. Wiley being the one to give this his attention at our next meeting. The following prescriptions were given us by Dr. Dodge with short talk about each. Acute conjunctivitis.

℞	
Tr aconiti	m viii
Ac Borici	grs v
Cocainae hydro	grs ii
Aquae rosae qs ad	oz i
M. S. Drop few gtts in eye at frequent intervals.	

Ringworm.

℞	
Acidi salicylici (true)	dr i
Ether sulphurici qs ad	oz i
M. S. Apply on cotton swab after washing thoroughly.	

Thrush.

℞	
Natr sulfurosi	dr i
glycerini qs ad	oz i
M. S. Swab mouth.	

Retention of urine.

℞	
Pituitrin (s)	m xv
Sig. Hypodermically.	

These are all good, true and tried remedies, all but the last having been used by the speaker for 35 years in active practice and are well worth the attention of every physician.

E. C. DUNCAN, Sec.

RENO COUNTY SOCIETY

Regular meeting of the Reno County Medical Society held at Nickerson, Wednesday evening, December 13, on invitation from members at Nickerson.

An excellent course dinner was given at 7 o'clock, by the domestic science class of Reno County.

The attendance was very good. Several men from over the county were there for the meeting. Also several Rice county members attended.

The feature of this meeting was a talk by Dr. P. T. Bohan of Kansas City, on 1, Peptic

Ulcer, and 2, Irritable Colon. Peptic Ulcer was taken up under the following headings, and thoroughly discussed by Dr. Bohan. 1, Diagnostic features of Peptic Ulcer, 2, Complications in order of frequency with most important diagnostic features. 3, Principle on which treatment is based. 4, Relief of Gastric Juice Corrosion. 5, Treatment of Hemorrhage. 6, Surgical indications.

Irritable Colon was then taken up with a thorough discussion using x-ray diagrams illustrating irritable colon, and also gave a thorough discussion of the treatment in these cases. This is one of the most interesting meetings we have had, and one enjoyed by all.

We hope we will be able to secure some other man of the Kansas University to talk to us in the near future.

C. D. McKEOWN, Secretary.

PRATT COUNTY SOCIETY

Pratt County Medical Society met on December 5th, Monday, 8 p. m., at the Commercial club room, Pratt. Dr. C. B. Francisco of Kansas City, the speaker of the evening, addressed the society on the subject of "Children's Orthopaedics." After a review of the physiological changes in bone and muscle which normally occur with advancing age, Dr. Francisco presented some of the problems which the rapid growth of infants brings when malformation occurs. The importance of treatment of club foot by securing and maintaining muscle balance of the affected foot soon after birth was shown. The changes of the foot bones caused by walking was mentioned together with the necessity of attention at this time until such changes take place. The age limit for the correction of single and double congenital hip dislocation was made clear. Causes and treatment of wry neck was discussed, early treatment avoiding face deformity which otherwise occurs. In the opinion of Dr. Francisco, tuberculosis causes many more cripples than syphilis. He maintains that infection with tuberculosis and the establishment of natural immunity is the rule with all children, and that many such infections cause some symptoms but pass unrecognized. Support

and rest with proper exercise during the entire growing period for tubercular joints was advised. Abscesses should not be incised unless they reach the cold stage.

G. W. Maness of Preston was elected president for the coming year; H. Atkins of Pratt, vice president; G. E. Martin of Cullison, secretary; Drs. H. Atkins, O. W. Miner, and C. F. Bucklin, censors, and G. E. Martin, delegate.

Those present were J. R. Campbell, C. E. Phillips, Athol Cochran, W. F. Bernstorf, M. C. Jenkins, and H. Atkins of Pratt; G. W. Maness of Preston; E. M. Ireland of Coats; G. E. Martin of Cullison, and Prof. Earle of Preston schools.

Dr. E. M. Ireland was elected to membership in the society.

G. E. MARTIN, Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held Monday evening, December 4, at Pelletiers Tea room.

The following officers were elected for the ensuing year: H. B. Hogeboom, president; W. H. Weilding, vice president; M. B. Miller, treasurer; E. G. Brown, secretary; W. E. McVey, Member Board of Censors.

Following the election of officers, a dinner was served for the doctors and their ladies. A total of 125 were present.

After the dinner, a program was given by 15 of the physicians, who presented a burlesque on a medical meeting. This was characterized by the usual number of telephone calls, bills, communications, applications for membership, with the censors report. There was a "scientific" program. O. P. Davis presented a paper on "Some researches on the Value of Extract of Tendo Achilles in the Prevention and Cure of Wound Infection." Dr. H. A. Lindsay held a clinic on an epileptic patient and Dr. J. L. Lattimore presented a surgical clinic.

E. G. BROWN, Secretary.

CENTRAL KANSAS MEDICAL SOCIETY

The Central Kansas Medical Society held its last quarterly meeting of the year, Thurs-

day, December 14, 1922, at the American Legion club rooms, Russell, Kansas.

It was the last meeting of the year but was one of the best meetings that we have had. It was well attended both by the members and visitors. Incidentally the Central Kansas Medical Society by its wonderful meetings is getting a reputation as one of the best medical societies in the state of Kansas. There is never a meeting of late but what we do not draw visitors from 30 to 70 miles away. At our last meeting we had six doctors from Osborn, two from Hoisington and two from Great Bend. The results of this good attendance and meetings is not only the work of the officers but the co-operation of each member of the society in trying to help make every meeting the best meeting. We have had and are still having some of the best men in the state and in Kansas City, Mo., appear on our programs, and our program for the coming year calls for talent equally as good.

We have grown from a membership of 22 in the last year to a membership of 45 and are still growing. With our membership of 45 we never fail to have less than 30 at our meetings and they all feel as though the meetings are worth while and that they get a great deal out of them from both a medical and social standpoint.

The following members answered roll call: Drs. Jameson, O'Donnell, Hennerich, Hisssem, Little, Davis, Koerber, Cramm, Bett-hauser, Unrein, Butler, Zerzan, Carter, Blake, Hawes, Stoner, Turgeon, Stewart, Anderson, E. A. Miller.

The following visitors were present:

Drs. Miller, Henschell, Schwapp, Ogg, Schoor, and Nye of Osborn; Drs. Zugg and Morrison of Great Bend; Drs. Brown and Pennington of Hoisington; Drs. W. L. McBride, L. V. Spake, Hugh Wilkinson, J. W. Faust, of Kansas City; Miss Anna Trabor, Russell County Health Nurse.

This being the annual election of officers the following officers were elected:

D. R. Stoner, president, re-elected; F. S. Hawes, vice president; L. V. Turgeon, secretary-treasurer, re-elected; G. F. Zerzan re-elected on Board of Censors for three years;

Dr. Jameson has two years and Dr. Mayer one year to serve.

After a brief business meeting the program was taken up. Dr. W. L. McBride of Kansas City, Mo., read a paper on "Arsphen-amine Dermatitis" which proved to be very interesting to the general practitioner. He brought out some very interesting points in the diagnosis of metal dermatitis of all kinds, as well as his new treatment of acute and chronic poisoning from the use of all metals including Salvarsan, Neo-Salvarsan and mercury—he advised the intravenous injection of graduated and increasing doses of sodium thiosulphate as first step in treatment of any beginning poisoning either acute or chronic from any of metals. He suggested that even in emergency a saturated solution of sodium hyposulphite could be used to fill stomach up with until you could get the ampoules for intravenous use. Sodium is a harmless drug and can be given without fear of toxic results from its use. This applies in all acute poisonings such as an accidental or intentional case of bichlorid poisoning.

Dr. Hugh Wilkinson gave a very interesting paper on "Some Points in Diagnosis and Treatment of Osteomyelitis." He advised early operation in all cases of osteomyelitis and never to wait for an x-ray diagnosis as they do not show anything until the case is too far advanced. He advised a large incision and thorough eradication of all diseased bone and drainage and wound treated with Dakin's solution.

Dr. J. W. Faust of Kansas City read a paper on "Acute Cholecystitis" which was well prepared, going into the embryology, nerve and blood supply, and gave reasons from the above for the symptoms and signs of an acute gall bladder trouble. He stated that gall stones preceded the infection as contrary to the old belief that infection preceded the gall stones. He also advocated early operation in a case with fever, leucocytosis and all other ordinary signs and symptoms that go to make up an acute cholecystitis.

Dr. L. V. Spake of Kansas City, one of the younger specialists who is rapidly coming to the front, gave us a paper on "Mastoid-

itis, Diagnosis and Treatment." He gave some very valuable points in the early diagnosis of same and advised that an early operation would prevent a lot of meningitis and chronic deafness. He also mentioned the fact that a baby with fever, crying, etc. requires a little more attention to examining ear drum and an early incision of same in place of ordering castor oil and give a colonic flush for relief of trouble.

These papers were freely discussed by all present. The visiting doctors were given a rising vote of thanks for the trouble they had gone to to prepare them.

Following the meeting we were all treated to a splendid banquet at the Russell House by the local doctors. The dining room was especially decorated for the occasion. Christmas decorations were carried out. The next meeting will be held at Ellis.

Dr. E. G. Webber, of Morland, was admitted to membership in the society.

LEO V. TURGEON, M.D.

Sec.-Treas.

DEATHS

John C. Kirby, Cedarvale, Kansas, aged 58, a graduate of the State University of Iowa Medical College, 1892, died November 16, 1922.

Andrew J. Hale, Leavenworth, Kansas, aged 88, (licensed Iowa, 1886) died recently, at the Cushing Hospital, from senility. He was a Civil War veteran.

"De Kruif's Vaccines for Broken Legs."

In the December issue of Hearst's International, there appeared an article by Mr. Paul H. DeKruif, on the subject of "Vaccines for Broken Legs," this being the fourth of a series of articles on "Doctors and Drug Monsters."

In this article, Mr. DeKruif, in addition to other things, makes the bold assertions that the vaccines produced by Dr. G. H. Sherman of Detroit, Michigan, are too dangerous a remedy for general distribution among the medical profession. That Sherman's vaccine is a "fake vaccine." That "the very highest authorities have repeatedly warned physi-

cians against the indiscriminate use of these vaccines as they have been known to cause death." That "the list of different diseases found in Sherman's Therapeutic index is idiotic." That "the Journal of the American Medical Association has denounced the use of vaccines in toxic conditions, and has published the danger of the ignorant use of vaccines."

In answer to these assertions, Dr. Sherman has issued a statement which we quote in part, as follows:

"Bacterial vaccines are the safest remedial agents of any practical value in the hands of the medical profession today. My extensive opportunity for comparative study of drug, serum and vaccine reaction makes this conviction a positive one in my experience.

We do not know of a single death or serious reaction resulting from the use of many millions of doses of bacterial vaccines where they have been administered subcutaneously. A number of prominent laboratory workers and clinicians who are ill informed on the subject of vaccine therapy have tried to assume the role of authority and have condemned the use of vaccines in acute infections on theoretical grounds but they have not clinically proven their case. The clinical aspect and experience from actual clinical administration of bacterial vaccine rather upsets theoretical deduction in this phase of the subject.

If DeKruif had read the article "Vaccines in Toxic Conditions," which appeared in the Illinois State Medical Journal, he would realize that his deductions and his argument on the same are falacious. To strengthen his opinion, he *apparently* quotes from the Journal of the American Medical Association, but reference to this publication shows that what appears to be a quotation is not a quotation at all but DeKruif's own "garbled" version of what was said in this article.

He mentioned certain work done years ago on the toxic properties found in bacteria. According to the figures of the very same workers, whom he quotes, it would take several thousand times the usual dose of vaccine to effect a fatal result from this cause.

DeKruif stated that Sherman produces

"fake vaccine." Anyone familiar with microscopic methods can examine the vaccine and establish to their entire satisfaction, that these vaccines are not fake preparations. As a matter of fact these vaccines are produced under government supervision and license and this should be proof sufficient that the vaccines are *not* "fake" vaccines.

He states that the list of diseases found in Sherman's therapeutic index is "Idiotic." He does not seem to know that most diseases are named after the part or organ of the body infected and that while there are many diseases, there are comparatively few varieties of bacteria causing them. He admits the value of vaccines in boils; which is a staphylococcus infection. Carbuncles furuncles, stys, felons, abscesses, infected wounds, fistulas and numerous other conditions are also frequently caused by the staphylococcus. Should we be so narrow minded and not use vaccines in these conditions just because it adds a number of names to a therapeutic index or should we look beyond the name to the cause of the infection and if it is a staphylococcus infection treat it as such, no matter what name it may carry. What holds true of boils and the staphylococcus is also true of the other disease mentioned in the therapeutic index and can be disposed of in a similar manner. If we spoke of disease as specific types of infection and used the name of the infecting organism as the name of the disease, there would only appear seventeen names in the therapeutic index.

A word as to the type of physicians using vaccines. We believe without exception that they are the most progressive physicians today. They are found within the city and the country as a matter of fact primarily in the larger cities. Many of them are men of national prominence, some are teachers in our great universities, others are editors of leading medical publications. We will agree with DeKruif, that it takes intelligence to get the best results from vaccines and consequently the many thousands of physicians who are obtaining results from vaccines must be somewhat above the average degree of intelligence. The contrary being true we can also see why certain sources have not obtained results from the use of vaccines."

BOOKS

Human Physiology, a Text-book, by Albert P. Brubaker, A.M., M.D., LL.D., Professor of Physiology and Medical Jurisprudence in the Jefferson Medical College. Seventh edition revised and enlarged with 367 illustrations. Published by P. Blakiston's Son & Co., Philadelphia.

This work has been carefully revised, the obsolete matter has been omitted and considerable new matter added. The subject of vitamins has been discussed as has also the chemistry of the blood, the physiologic action of the heart, the action of the vagus on the heart, the chemic relations of oxygen and carbon dioxide in the blood, determination of heat production, the secretion of urine, basal metabolism. The additions have resulted in a considerable enlargement of the book.

I Believe in God and in Evolution, by William W. Keen, M.D., Emeritus Professor of Surgery, Jefferson Medical College, Philadelphia. Published by J. B. Lippincott Co.

This is an address which was delivered last June at the commencement exercises of Crozer Theological Seminary. It appeals to the open mind as presenting a common sense view of evolution, which with the facts known to substantiate it should not interfere, or be interfered with, by any form of religion. He says "the Bible is a text book of Religion and not a text book of science." It is convincing to the unprejudiced reader but like all other arguments of the kind will not be read by bigotted religionists.

—R—

A Request.

To the Editor—I am endeavoring to make a complete study of the distribution of human actinomyces in this country. The number of cases reported in the literature is surprisingly small, and I know that the disease is not so rare as is sometimes thought. I shall greatly appreciate hearing directly from any one who has had experience with this disease, and desire to know concerning case histories the following: age, sex, occupation, residence, state in which the disease was contracted, location of lesion, duration of symptoms, and any special points of interest connected with the treatment, outcome of the disease, or necropsy findings.

A. H. SANFORD, M.D.

Mayo Clinic, Rochester, Minn.

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No 2

Upper Femoral Fractures

E. D. Ebright, M.D., Wichita.

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

In this paper on fractures of the upper end of the femur we purpose to compare the merits and the results of the different methods of treatment, to note the failure of the ordinary methods to measure up to present day requirements, to recommend and urge the Whitman Abduction Method as the standard surgical procedure to be followed in all cases, to meet the objections that are offered against the method and finally to suggest means by which this method may be carried out, not only in the large hospital with its modern equipment but in the remotest hamlet by any physician who cares to take the pains to understand the conditions to be met and who possesses any mechanical ingenuity whatever.

Fractures in this region may be either simple, comminuted or compound. Those infected by contact with the air, or so-called compound fractures, require special treatment and will not be discussed in this paper.

Anatomically, upper femoral fractures are classified as internal or external to the trochanteric line. Surgically, they are capsular or extra capsular.

In this paper only recent fractures will be considered. Old ununited fractures are best treated by open operation and the use of a bone peg. They will not be further mentioned here. Only those recent fractures occurring within the capsule come within the scope of this paper. Fractures outside or below the trochanteric line may or may not be treated by the abduction method. They are rare as compared with the intra-capsular type and do not present any serious surgical problem.

All our difficulties, all our pessimism, all our bad results in these conditions, have been in the so-called surgical neck fractures.

That there may be no misunderstanding in regard to the classification of capsular or

extra capsular, let me say that the capsule extends much further toward the trochanter in front than it does behind. A fracture may be extra capsular behind and intra-capsular in front. What we mean by a capsular fracture then is any fracture that is internal to any part of the capsular attachment at the trochanteric line and is thus subject to the fixation influence of the capsule.

We have been taught both by authorities and our own results that it is useless to expect perfect results in fractures in this vicinity, that if the patient be old and infirm, no treatment is as good as any, and if the Gods be kind and we have what we call an impacted fracture, we are to consider the patient and ourselves fortunate indeed. In some of our surgical text books of recent years we are gravely told how to produce an impaction in those cases not already impacted by forcibly driving the fragments together with a sharp blow over the great trochanter.

All this teaching has resulted in giving fractures in this location a bad name and is responsible for the unscientific treatment advised, such as continuous traction by weight and pulley, the use of ice tongs, fixation and extension by means of the Thomas' splint or what is no worse than any of these, no treatment whatever.

It is true of course that fractures in the aged do not heal as kindly as they do in the young, and that old people do not stand confinement well. It is true that the joint fluid may hinder the formation of callus. It is true that the neck of the femur is deficient in blood supply and this is especially so if there be atheromatous changes present. But these facts while true are not of themselves sufficient to warrant the pessimistic prognosis usually given or to excuse the bad treatment advised and employed. As Ridlon has well said, "There is no inherent tendency of these fractures not to unite." True they unite

slowly and the callus requires longer to become solid bone than it would in a fracture of the femoral shaft, but if properly reduced and time allowed, the proof will be conclusive that our bad results have been due to bad doctor rather than to bad bone.

False surgical epigrams and maxims have been both the cause and result of bad surgery, and nowhere is this so manifest as in the treatment of fractures.

I wish to call your attention to two that are especially false so far as they apply to the treatment of these fractures under discussion. First: The maxim that function is more important than perfect alignment. This has been stressed so much that it has come to mean, "Pay no attention to alignment or apposition. If the fragments are far apart, are so far out of line that healing must go through the entire process of callus, cartilage and bone, no matter, if finally we get a good functioning result we have done a good bit of surgery." And second: The dictum of Lucas-Champonnier that fixation of the fragments in fractures is not to be desired, in fact may be detrimental to osteogenesis.

It never was true and never can be true that fragments apart and out of line will give as good results as perfect alignment and good apposition, and it is not true that movable fragments will unite as well as fragments immobilized.

Our treatment of fractures has not kept pace with our surgical progress in other condition. We have ignored definite mechanical and physiological laws, and have been content to accept tradition and things as they are. For instance, there never was any surgical sense in driving a pair of ice tongs into the condyles of the femur as a point for the application of traction, when the reduction could be accomplished at once by an open operation, that would be no more dangerous to the patient and would be infinitely more certain.

The way to reduce a fracture is to reduce it, this I offer as a maxim that is true and based on surgical results and mechanical principles. It is true of fractures in general and doubly true of fractures of the surgical neck. A comparison of the results from this sort of treatment of these fractures with the

results following the old method of weight and pulley extension illustrate very clearly what I am trying to say.

I do not presume to state the mental processes that caused Whitman to devise his abduction method of treating these fractures, but I suspect his mechanical sense revolted at the idea of overcoming a fracture deformity of the neck of the femur that joins the shaft at an angle by extension or traction applied by any of the ordinary methods. I take it, he thought the way to reduce these fractures was immediate perfect alignment and apposition of fragments with complete fixation. At any rate this is what the abduction method does, and it is the only method that accomplished these results.

All other methods that use continuous traction to tire out contracted muscles in the hope that somehow or other the force exerted will be exactly adequate to accomplish the result with no over stretching, and that in some manner not yet understood the ends of the fragments will fall perfectly in line and remain in that condition are mechanically unsound and surgically unscientific.

I do not doubt but that all of you are familiar with Whitman's method, at least theoretically, but I am sure that the objections that have been urged against it have caused many of you to accept them at more than their face value and have been responsible for your failure to try out the method. At first glance these objections may appear plausible, but closer observation will show them to be not only unfounded but unreasonable. They are three and are as follows:

1. The scarcity of men who know how properly to apply a long spica, certainly not a valid objection to the method if it be valuable.

2. That old people in whom most of these fractures occur, do not well stand confinement in a plaster paris cast. This objection confuses the fracture with the method of treatment. Old people do not stand the fracture well, but if the cast is properly applied after reduction, it is a benefit, for it allows them to be turned over and moved in any position without disturbing the fracture, thus preventing bed sores or lung complications.

3. That these patients can not take an anesthetic. This objection is best met with the statement that I have repeatedly reduced these fractures by this method without any anesthetic. While there is pain during the operation the sum total of suffering is much less than that undergone by any other method, for as soon as the reduction is made and held by a proper cast, the relief from pain is immediate and almost complete.

The anatomy of the parts is well understood and I shall not take up your time except to say that the neck is directed slightly forward from the shaft and upward at an angle of 130 degrees. Running between the greater and lesser trochanter is the inter-trochanter line. The capsule is a dense membrane arising from the rim of the acetabulum and surrounds the neck and extends outward to be attached to the trochanter line. It is as powerfully reinforced in front by the Y-ligament that arises from the anterior inferior spine and is inserted into the lower part of the line. As stated before the capsule extends farther out in front than it does behind and is much stronger at the anterior part. It is this portion which is used as the splint to effect and maintain reduction.

No muscles are attached within the capsule and the displacement of the lower fragment is caused by the muscles that are attached externally. The position of the upper fragment is altogether influenced by that of the lower one.

In a paper read before the American Medical Association in 1921, Ruth, in describing his double traction by weight and pulley method, lays a great deal of emphasis on his assertion that normally the ilio-psoas muscle is an internal rotator of the thigh. Other authorities claim the same action for this muscle. Gray says it is an external rotator. Piersol divides the muscle into its component parts, and lists the psoas as an external rotator and the iliacus as an internal rotator.

While it can have no possible bearing on the subject of femoral neck fractures, for all agree that these muscles in case of fracture become the most powerful external rotators we have, and the chief cause of the deformity, I am going into the question because so much

stress has been laid on it in discussing these fractures. The theory that the ilio-psoas in addition to its chief action as a flexor of the thigh, is an internal rotator, is based by Ruth and others on muscle pull studies on the skeleton. A rubber band is stretched between the origin of the psoas at the sides of the lumbar vertebrae and the insertion of the tendon into the lesser trochanter. The pull of this band between these two parts does weakly rotate the thigh inward. This is due to the leverage of the tendon on the head and neck, as it bends around the angle at the rim of the acetabulum between the anti-inferior spine and the ilio-pectineal eminence. This straightening power or "Push" is greater than the contracting power of the muscle, hence the head is pushed in rather than the trochanter pulled out.

The same test applied to the iliacus shows it to be a definite external rotator, and of more power than the psoas so far as the rotatory action is concerned. So the theory falls to the ground, for it must be remembered that the psoas and iliacus are separate muscles, their only common point being their insertion side by side into the lesser trochanter, and their combined action even by the skeleton test can not possibly be said to be that of an internal rotator. If I am correct in this, and I believe I am, then Piersol has guessed wrong both times. Normally during life, this pressure power of the tendon on the head and neck is lost because of the interposition of the soft tissues and the muscle action thus becomes one of pure contraction. Hence while of no surgical importance we definitely affirm the ilio-psoas to be an external rotator.

These fractures of the neck may occur either close to the head at the middle, or at the base. Fortunately in the aged the break is most often at the latter place where the circulation is better than at any other point. In the young the break is more often at the middle of the neck, or close to the head. There is one type that already has been mentioned, and is generally supposed to occur frequently, viz., the impacted fracture. There is scarcely a text book, to my knowledge, that does not warn against breaking up this impaction. The one most positive on the subject speaks of

impaction without shortening. Stereoscopic pictures will generally show these to be not impacted at all, but incomplete fractures, and in the patients who walk for a while and then are disabled by the breaking up of the impaction this is always the case. I can not conceive how a complete fracture in an old person can be impacted to such an extent as to allow weight bearing and walking any more than I can conceive how one can have an impaction without shortening.

These so-called impacted fractures, if the condition of the patient will permit of any treatment whatever should be reduced by the abduction method.

The symptoms of fracture of the surgical neck are pain, loss of function, shortening and deformity. In the incomplete type we may have only the symptoms that go with a coxa-vara.

The diagnosis in the old is generally very easy and may be made from the history and clinical symptoms. In the young the x-ray should be employed both before and after reduction.

We have mentioned the bad prognosis usually given by those who employ the usual methods of treating these fractures. On the other hand there is no fracture of the bony skeleton where the anatomy of the parts permit such certain perfect reduction and retention. Our troubles have been that the fracture has not been immediately reduced, or if the reduction leaves the position in fair shape we have not allowed time for a complete healing. We should tell our patients that it will be a year before union will be sufficiently solid to allow walking.

The abduction method is based on the anatomy of the parts. We know that the deformity of external rotation and shortening is principally caused by the ilio-psoas, the abductors and the external rotators. By complete abduction the head is anchored in the acetabulum, the neck rests against the upper rim of the acetabulum and the great trochanter by slight internal rotation is held firmly against the depression between the two anterior spines. The capsule once this position is obtained holds the parts firmly together and at the correct angle and this method by

so doing is the only one that assures us against coxa-vara.

The technic is as follows: The patient is placed on a Hawley or Albee fracture table with the perineum held firmly against the perineal bar. The sound leg is abducted to its full range to fix the pelvis and to measure the normal degree of abduction. The injured leg is first flexed upon the thigh and the thigh upon the abdomen. This step is for the purpose of disengaging the soft parts principally the ilio-psoas muscle from between the two fragments. The leg is then brought down straight and extension applied until the leg is the same length as its fellow. The thigh is then slightly rotated inward and finally the leg is abducted to the same degree as that of the sound side. By these maneuvers the parts will be perfectly in line and apposed. They must, by the influence of the capsule, come together, there is no place else for them to go. This amount of abduction brings the neck at an angle of 90 degrees with the body and is the position we wish to secure to prevent a coxa-vara.

The long double spica is applied from the axilla. We put up the sound leg to the knee because we feel that this prevents any possible movement of the pelvis, and because by so doing we have found it easier to handle the patient. This part of the cast is allowed to remain about two weeks when it is removed. We now have our fracture reduced with no possibility of any subsequent displacement and the patient in such condition that he may be turned completely over which we do two or three times every day. The cast properly applied is very comfortable to the patient, but there are several very important steps that must not be omitted. Extend it clear up to the axilla, pad the back well with a piece of one-half inch felt covered with a thin smooth layer of sheet wadding next to skin. Another very important thing is to preserve the natural lumbar curve of the spine. This we do with a wide heavy muslin bandage that goes round the body and is fastened to an overhead arm. Care must be taken to pad the prominent bony parts such as the anterior superior spines. After the cast is hardened a window may be cut over the front of the

chest and the abdomen. Also one may be cut over the knee so that the patella may be moved every day.

The success of all plaster paris work depends on the character of the plaster paris bandages used. These must be made. I have never found a satisfactory commercial bandage. The best grade of dental plaster should be used. The crinoline of which the bandages are made should be torn in strips so that they will be six or seven inches wide after the ravelings at the edges are pulled. They should be about six or seven yards long. Lay the crinoline on a board and rub plaster into it until the mesh is completely filled. Roll smoothly and just tight enough so that no plaster will be lost in handling. Wrap the completed bandage in a thin paper napkin and hold with a small rubber band. If kept in a dry place these will keep indefinitely.

In case a Hawley or Albee table is not at hand this pelvic rest that I am showing will enable one to do everything that can be done with the more expensive apparatus.

In conclusion the reasons for our failures in the past in neck fractures are:

- 1st. The poor blood supply of the parts.
- 2d. The presence of synovial fluid that slows the formation of callus.
- 3d. Failure to secure proper reduction of the fracture.
- 4th. Inability to secure complete fixation of the fragments.
- 5th. Weight bearing before the bony union is complete.

The usual methods of treatment do nothing to overcome the first two physiological reasons and are themselves responsible for the next two. The rules for infinitely better results that have been obtained in the past are:

- 1st. Good reduction of the fracture.
- 2d. Absolute fixation.
- 3d. No weight bearing until solid union is complete.

The Whitman method above all others accomplishes these results of reduction and fixation and gives us the best opportunity of overcoming the natural disadvantages of fractures in this location.

The Determination of Uric Acid in the Blood

MARTIN DUPRAY, M.S., Hutchinson, Kansas.

Read before a meeting of the Kansas Medical Laboratory Association, December 14, 1922.

In presenting this paper to the Association, I am not giving it as original research on my part, as none of the methods I shall describe were discovered by me. I have however worked with all the methods mentioned, and shall describe to you the method I have chosen from existing procedures.

Uric acid was one of the first products of metabolism to be isolated and studied. Its occurrence and chemistry in the urine have long been well understood, and its occurrence in the blood has been well known for some time. It was not until the last ten years however that its quantitative determination in the blood for clinical purposes was possible. The older methods of determination involved concentration and crystallization and gravimetric determination, which considering the minute amount of uric acid in the blood, was not practical on the amounts of blood obtainable from the living subject, especially the sick person.

In 1912, Folin and Denis¹ described a specially prepared phosphotungstic acid, possibly developed from one described by Moreigne² in 1905, that under proper conditions gave a color reaction with uric acid that was reasonably quantitative, and from this in 1913¹ they developed a quantitative colorimetric method for blood usable upon some 15 or 20 cc of blood, and hence applicable to clinical work. Their reagent however gives a color with other bodies than uric acid, so it was necessary to isolate the uric acid before the determination. In their method proteins are coagulated with .01 N acetic acid and heat, the filtrate evaporated down, and adapting a method developed by Salkowski³ in another connection many years before, precipitate uric acid by silver lactate and magnesia mixture. The silver urate is separated by filtration or centrifugation, and decomposed by hydrogen sulphide water, and the silver sulphide in turn removed, the final filtrate being tested colorimetrically. While this method made possible the determination of uric acid for clinical

purposes, it was very tedious and difficult, in fact about the most difficult blood chemistry determination. It also required as above noted, a considerable amount of blood.

In 1915 Benedict⁴ added to this method the use of colloidal iron after the acetic acid coagulation of proteins to more thoroughly remove proteins and other interfering substances. Benedict and Hitchcock⁵ eliminated the use of hydrogen sulphide decomposition of the silver urate and subsequent removal of silver sulphide by dissolving the silver plate directly in potassium cyanide. No other material changes were made in the method until Folin and Wu⁶ published their "System of Blood Analysis" in 1919. In this paper the authors include a uric acid method that is faster than the previous method and uses only 4 cc to 5 cc blood. In this system they introduce a new protein precipitant, tungstic acid, which has not as yet been improved upon. In the uric acid method, the previous tedious evaporation is avoided. Uric acid is precipitated by silver lactate, without the magnesia mixture, the silver urate removed by centrifugation and the supernatant liquid discarded. The silver urate is then decomposed by dilute hydrochloric acid and sodium chloride, and the resulting silver chloride removed by centrifugation. The Folin and Denis¹ uric acid reagent is used to develop the color in the presence of sodium carbonate and sodium cyanide. The uric acid standard solution was also new, the uric acid being dissolved in lithium carbonate and 10 per cent sodium sulphite added to prevent oxidation. This was supposed to keep indefinitely, but experience has shown that it usually does not because of bacterial decomposition. The Folin and Wu method, while a great improvement, was still one of the most tedious blood chemistry determinations.

Myers⁷ in 1920 suggested that the hydrochloric acid and sodium chloride decomposition of the silver urate, and subsequent centrifugation might be dropped by dissolving the silver urate directly in the sodium cyanide used in the color development.

Morris and Macleod⁸ in 1922 pointed out that silver lactate solutions deposit more or

less reduced silver, which gives a color with the Folin and Denis reagent¹ and that this introduced an error into the method, which error would be considerably increased if Myers⁷ suggestion was followed. They further showed that most samples of sodium sulphide gave some color with the Folin and Denis reagent, thus introducing another error in the method. They also found that by increasing the amount of cyanide added that the alkalinity was sufficient without using sodium carbonate and one reagent could thus be dispensed with. They also developed an arsenotungstic acid instead of a phosphoric tungstic acid that they believe superior to the Folin and Denis reagent. Acting upon these discoveries they proposed a new method. They begin with the Folin and Wu tungstic acid protein precipitation, and from the resulting filtrate precipitate uric acid with zinc chloride and sodium carbonate instead of silver lactate. The zinc urate is separated by centrifugation and dissolved in hydrochloric acid and sodium cyanide without subsequent centrifugation, and the color developed with the arsenic tungstic acid reagent. For standard solution of uric acid they discard the sulphite solution of uric acid of Folin and Wu and return to the phosphate solution of uric acid of Benedict and Hitchcock⁵ proposed in 1915. By these means they believe that they get somewhat greater accuracy and also a greater color per unit of uric acid, making it possible to use less blood for the determination. Their method however is only a little less tedious than the Folin and Wu method.

Jackson and Palmer,⁹ 1922, studying the Folin and Wu method, also dispense with sodium carbonate in developing the color by increasing the cyanide, but continue the HCl and NaCl decomposition of the silver urate and centrifugation. They discuss certain precipitation troubles with the original Folin and Denis reagent and suggest an improved phosphotungstic acid reagent prepared from the Folin and Denis reagent by (a) evaporating one portion to dryness and (b) by dialysing another portion, and mixing the two in proper ratio. They claim a greater color per unit of uric acid, and a greater accuracy. The preparation of their reagent however is very

tedious and they have not simplified the method.

In March, 1922, Benedict¹⁰ again appears with a critical study of the Folin and Wu method and certain others mentioned herein, including a study of several conjugated arsenic tungstic and arsenic phosphoric tungstic acids. He proposes another new uric acid reagent arsenic-phosphoric-tungstic acid. This reagent is easily prepared in 30 minutes or so, and gives such strong color with uric acid that 5 cc filtrate, representing .5 cc blood is sufficient for the determination. Benedict also believes this reagent so specific for uric acid that the precipitation and separation of the uric acid from the polyphenols is unnecessary, and the determination may be made directly on the blood filtrate after separating the proteins by merely adding a sufficient amount of cyanide and the arsenic phosphoric tungstic acid reagent. He finds the cyanide gives sufficient alkalinity without the use of carbonate. This method not only makes the determination possible on a very small amount of blood, but advances the uric acid determination on blood from the most tedious and difficult to the simplicity of a blood sugar determination. In this method Benedict retains the Folin and Wu tungstic acid coagulation of the proteins and uses as uric acid standard the phosphate solution of uric acid of Benedict and Hitchcock⁵.

Folin,¹¹ in October, 1922, in the light of these discoveries, proposes a modification of the method of Folin and Wu⁶ for uric acid in blood, as a "Supplement to the System of Blood Analysis." He points out that the arsenic phosphoric tungstic acid of Benedict¹⁰ is not as specific for uric acid as Benedict supposed except under the conditions of the test, and believes the original Folin and Denis reagent to be also specific under the same or similar conditions, and adapts it to the Benedict method accordingly. Because however of trouble with precipitation during the color development he finds it necessary to use lithium oxalate instead of sodium or potassium oxalate as an anticoagulant when drawing blood, and carries out the color development under rather limited conditions after adding lithium salt for the same reason.

I do not believe his method to be the equal of the Benedict method. He does however propose a new and meritorious stock solution of uric acid to be used as standard. This solution is prepared in formaldehyde solution and appears to keep indefinitely as well as being easy to prepare, and only requires dilution to be ready for use.

Benedict,¹² in October, 1922, replies to Folin's rather drastic criticisms and defends his arsenic phosphoric tungstic acid reagent and his method. He also proposes another permanent standard uric acid solution, made up in dilute hydrochloric acid and saturated with CO₂ and kept saturated with CO₃ to prevent oxidation by being connected to a Kipp CO₂ generator. This standard solution would doubtless be very serviceable in a laboratory making large numbers of blood uric acid determinations, as it is already of correct strength and requires no dilution before use, but I do not see its superiority over Folin's formaldehyde stock solution in a laboratory making only an occasional test. . .

From this brief resume of only a few of the recent papers on blood uric acid determinations it is obvious that at present we have quite a variety of procedures to choose from in the way of simple and rapid methods for determining uric acid in the blood.

In the following selection I have chosen procedures, based on experience with the methods described above, that I believe adapted to the needs of a laboratory making only an occasional blood uric acid determination. They were chosen because of the simplicity of the method itself, and because of the small number, ease of preparation, and stability of the reagents used. A laboratory making a large number of uric acid determinations might find some other selection preferable. Further theoretical discussion of the reagents and methods is not within the scope of this paper, and those wishing to pursue the subject are referred to the authors quoted. The method to be described is essentially the direct determination of Benedict,¹⁰ the only material substitution being the formaldehyde uric acid stock solution of Folin¹¹.

The following solutions are required. They are here given as the authors from whom they

were taken gave them, on the basis of preparing one liter of each. The laboratory making only a few determinations will find 100 cc enough of each to make at one time, in which case use one-tenth the amounts given. Sodium Tungstate, 10%, Folin and Wu⁶.

Sodium tungstate, pure ($\text{Na}_2\text{WO}_4 \cdot 2\text{H}_2\text{O}$) 100 grams.

Distilled water, to make, 1000 cc.

Folin and Wu⁶ pointed out that some lots of tungstate contained appreciable amounts of sodium carbonate, and when too alkaline did not work well. They recommended that if more than .4 cc .1 N HCl were required to neutralize 10 cc of the 10% solution that it be not used. It has been my misfortune to buy three lots of sodium tungstate in succession that had about three times this alkalinity. I found that by titrating them and neutralizing with N/1 HCl I could use them quite satisfactorily.

In a later paper Folin¹³ showed that some lots of tungstate were acid instead of alkaline, due probably to condensation of the tungstic acid, and that such lots were hard to dissolve and did not work well. He found that by titrating them and adjusting to neutrality with N/1 NaOH they could be used satisfactorily.

SULPHURIC ACID, 2-3 NORMAL

Folin and Wu⁶.

This may be made by dilution of a N or 2N or other standard H_2SO_4 solution, or may be made 2/3 normal in the beginning, but in any case, must be titrated against a standard alkali and accurately adjusted to exactly 2/3 normal.

ARSENIC PHOSPHORIC TUNGSTIC ACID.

Benedict¹⁰.

Place 100 grams sodium tungstate in a liter erlenmeyer flask. Dissolve in about 600 cc distilled water. Add 50 grams arsenic acid anhydride (arsenic pentoxide, As_2O_5), (not white arsenic, As_2O_3), 25 cc 85% phosphoric acid, and 20 cc concentrated hydrochloric acid. Boil 20 minutes. Cool, transfer to a liter volumetric flask, make up to 1000 cc with distilled water. The reagent is ready to use, and appears to keep indefinitely.

SODIUM CYANIDE, 5%. Benedict¹⁰.

Place 50 grams sodium cyanide in a liter volumetric flask. Dissolve in 700 cc to 800

cc distilled water. Add 2 cc concentrated ammonia and make up to 1000 cc with distilled water. Prepare fresh every three months.

For a discussion of the reasons for the 5% strength and the ammonia, see Benedict¹⁰ and ¹². Folin¹¹ holds somewhat different views.

URIC ACID STOCK SOLUTION. Folin¹¹.

Transfer 1 gram uric acid to a funnel on a 300 cc erlenmeyer flask. Transfer .5 gram lithium carbonate to a 300 cc beaker and add 150 cc water and heat to about 60°C until dissolved. (In the method here described sodium carbonate may be used in place of the lithium carbonate if the latter is not at hand.)

With the hot carbonate solution rinse the uric acid into the flask and shake. The uric acid dissolves practically at once. As soon as a clear solution is obtained, cool under running water, and transfer to a liter volumetric flask. Rinse the erlenmeyer flask with two or three portions distilled water and add the rinsings to the volumetric flask. Bring the volume in the volumetric flask up to about 500 cc. Add 25 per cent cc of 40 per cent formaldehyde solution and shake to mix thoroughly. Add 3 cc glacial acetic acid (or equivalent quantities of 50% or 25% acid.) Shake to remove most of the carbonate acid, dilute to 1000 cc, and mix. Store in small bottles filled up to the neck, tightly stoppered and kept in a dark place. Solution appears to keep indefinitely. Contains 1 mg. uric acid per cubic centimeter.

In practice, for blood work, 1 cc of the above stock solution is diluted to 250 cc with distilled water, so that 5 cc contain .02 mg. uric acid.

Addition products are formed between the uric acid and the formaldehyde, and a strong solution does not give quantitative color results. When the stock is highly diluted however, dissociation is so complete that quantitative results are obtained (Folin).

METHOD.

Draw blood by venepuncture, using sodium oxalate at the ratio of about 20 mg. per 10 cc blood to prevent clotting. Blood should be taken in the morning before breakfast, or about 3 1/2 hours after breakfast. Much potassium interferes with uric acid and cre-

atinin determinations, and the sodium salt is preferable, for this reason.

Pipette 2 cc oxalated blood to a large test tube or small flask.

Add 14 cc distilled water and mix.

Add 2 cc 10% sodium tungstate solution.

Add 2 cc 2/3 normal sulphuric acid, and mix.

Let stand 10 minutes before filtering, to be sure of complete precipitation of proteins. (Benedict¹⁰.) Filter through a small filter, preferably one that will just hold the amount being filtered.

After adding the sulphuric acid and mixing, the blood should quickly turn a chocolate brown. If it remains pink, either a large excess of oxalate has been used, or the sodium tungstate and sulphuric acid are not properly adjusted. I have found the latter to be usually the case, and experience no trouble when they are carefully prepared. If the mass remains pink, add 2N sulphuric acid a drop at a time, with thorough mixing, until it changes (Folin and Wu⁶).

If other determinations than uric acid are to be made on the Folin and Wu filtrate, use an appropriately increased amount of blood, distilled water and coagulating reagents.

In a large test tube (need not be graduated) place 5 cc of the above filtrate. In another tube place 5 cc diluted uric acid solution (containing .02 mg.).

To each tube add 5 cc distilled water.

To each tube add 4 cc 5% sodium cyanide. (*Very poisonous. Best measured from Burette. Otherwise by pipette with rubber bulb.*)

To each tube add 1 cc arsenic phosphoric tungstic acid. Mix by inversion once, place in boiling water 2 minutes (or room temperature 15 minutes, but in latter case precipitates sometimes develop). Transfer to cold water to cool, and as soon as possible, read in colorimeter.

Place standard in left cup and set at 20 mm, and compare unknown in right cup.

Under the conditions of the test, the standard represents 4 mg uric acid per 100 cc, therefore,

COMMENT.

I have run the above method in parallel with the Folin and Wu method⁶ and with the Morris and Macleod method⁸ and believe it to be a dependable method. It usually gives slightly higher results than the Folin and Wu method, whether because the Benedict reagent is affected by substances other than uric acid, making the Benedict results too high, or because the Folin and Wu results are too low because of incomplete precipitation of uric acid, or possibly both, I am not prepared to say. The difference however is only slight and does not materially affect the interpretation of results.

While the uric acid determination on blood is not required in practice as often as some other blood chemistry determinations, it is nevertheless important at times. I believe it to be of little value by itself, interpretation being possible only in connection with non-protein nitrogen and urea nitrogen values. When so used the uric acid value, as pointed out by Myers¹⁴ and others, is of help in nephritis and in differentiating gout and rheumatism.

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Brown or amber colored bottles are not fit containers for milk. The Iowa State College upon careful investigation and tests proved that milk in brown or amber colored bottles soured quicker than the same milk in clear glass bottles. This shows that it is not best to shadow milk.

Prostatic Hypertrophy—Its Treatment and Relief by Perineal Prostatectomy

J. EDWARD BURNS, M.D., KANSAS CITY, MO.

Read before the Northeast District Medical Society at Atchison, October 26, 1922.

Prostatectomy is an operation of advanced life. Some authors state that 35% of men over 60 years of age have some form of enlargement of the prostate. It was formerly a much dread operation on account of the high mortality rate, and this is still unfortunately true in the hands of operators who are not willing to give the proper care and study to their cases and use judgment as to the type of operation performed.

In some clinics, the mortality rate has been reduced as low as 3.7%. This includes all classes of cases with ages ranging as high as 92 years. The reasons for this marked reduction in mortality rate are as follows: More careful preoperative treatment which is regulated largely by the introduction of clinical laboratory tests whereby the condition of the patient and the time for operation can be accurately determined, and careful study and treatment of any existing complications; the great improvement in operative technique; a more careful post operative treatment including particularly any complications arising and especially those in regard to renal functional activity.

In this paper we shall consider the diagnosis of prostatic enlargement, the preoperative treatment, operation, and post-operative treatment in cases where a perineal prostatectomy is done. Many points will be brought out, particularly in the preliminary treatment, which are equally important, whether the prostatectomy be done by the perineal or suprapubic route.

Diagnosis:—The diagnosis of prostatic hypertrophy is made chiefly by rectal examination. However there may be marked hypertrophy intravesically and little or none per rectum.

Outspoken cases of benign prostatic hypertrophy in which a large rounded smooth elastic mass is encountered by the examining finger per rectum, and cases of advanced carcinoma, where there is present a large irregular mass of stony hardness, are readily recogniz-

able. However, those cases in which the prostate is little if at all enlarged per rectum, and those in which there is a small hard nodule in the posterior lobe, require much care and study before an accurate diagnosis can be given.

Carcinoma is found in 15% to 20% of cases of enlarged prostate. As this is primary in the posterior lobe, any hard nodules or indefinite areas of marked induration should always be suspected and investigated thoroughly at operation. In making a rectal examination, the tone of the rectal sphincter should always be noted, for its condition is often analogous to that of the vesical sphincter. An anal sphincter of poor tone should lead to a thorough investigation of the central nervous system. The outlines of the prostate and seminal vesicles should be mapped out on a rectal chart and any suspicious areas noted—also any enlarged glands and the condition of the membranous urethra.

After rectal examination, the patient should void all the urine that is possible and a careful cystoscopic examination be made.

Cystoscopic Examination:—It should be noted whether the cystoscope passes with ease or not. The residual urine and bladder capacity should be determined, and the bladder tone noted. The prostatic orifice should then be mapped out on a suitable chart and the amount of intravesical enlargement of the prostate determined. The condition of the trigone and the ureteral orifices should be stated and the latter watched as to functioning. The condition of the bladder wall and the presence or absence of tumors, calculi, celluloses and diverticula should also be noted. When the anterior and lateral prostatic margins are normal in contour, especial attention must be given to the posterior margin and the presence or absence of a median bar determined, also its degree of elevation above the trigone if one is found. The thickness of the median bar and the trigone may be determined by placing the finger in the rectum and palpating against the cystoscope in the urethra, its beak being turned downward. If the prostatic orifice be normal in appearance, an attempt should be made to withdraw the cystoscope into the prostatic urethra and

view the verumontanum, a procedure which if readily accomplished demonstrates the dilation of the internal sphincter and this together with trabeculation of the bladder wall and atrophy of the trigone should always make one most suspicious of disease of the central nervous system.

A thorough physical examination is of the greatest importance, for thereby the existing complications, if any, are determined and according to their importance and degree the proper measures can be instituted for their correction during the preliminary treatment of the patient for the prostatectomy. Those most commonly found are cardio-renal, cardiac, cardio-vascular and vascular.

The most important factor in the preparatory treatment is the relief of urinary retention preferably by catheter drainage. If the residual urine be moderate in amount, 250 cc's or less, and the kidney function as shown by the phthalein test, good, then catheterization twice daily is usually sufficient. If, however, it be large in amount, and the kidney function good, interval catheterizations four to six times in 24 hours may be done. If the residual is very large and the kidney function poor, then a retention catheter with continuous drainage should be instituted.

The technique of catheterization is very important and it should be done with the strictest asepsis and with as little discomfort to the patient as possible. Argyrol instillations after catheterization have been found most helpful in keeping down infection and preventing reactions. Where there is permanent catheter drainage the catheter should be changed every third day, being kept out for several hours each time to give the urethra a rest, and there should be daily bladder irrigations with boric acid or a weak solution of silver nitrate. Interval catheterization should always be done when a marked urethritis or epididymitis is present. The catheters used should be preferably soft rubber or woven Coude' and their introduction should be tried first alone, and if any difficulty is encountered they should be introduced on a stylette. Metal catheters should never be used. These patients should drink large amounts of water, about 6 ounces every hour unless it is contra-

indicated by some complication. If water is not well taken or tolerated, saline infusions should be given or proctoclysis instituted. Sometimes after relief of a large amount of residual by catheterization, there is a sort of reflex suppression of excretion of urine and this is best counteracted by an infusion of salt solution or giving salt or glucose (20%) intravenously. This latter has been found most efficient in promoting diuresis.

Urinary Antiseptics:—Of the urinary antiseptics, hexamethylenamin has been found very effective and is usually given in doses of 15 grains every four hours during the day unless it is not well tolerated. Acid sodium phosphate and sodium benzoate are also beneficial. Of the newer urinary antiseptics, acriflavine has been found most efficient. This can be given by mouth in doses of one grain twice a day, and also used locally in the form of bladder injections in a solution of 1-400. Acriflavine destroys bacteria in the presence of an alkaline urine. Often the urine is already alkaline and if it is not, it should be made so. Mercurochrome and the other new mercurial compounds can also be used locally in the form of bladder injections.

In cases of marked renal impairment, acidosis is often present as demonstrated by the hydrogen concentration of the blood and alveolar air content of CO_2 . For this, sodium bicarbonate by mouth, per rectum combined with lactose, and intravenously is most efficient. Glucose intravenously and free catharsis are also followed by very beneficial results.

Of the clinical laboratory tests introduced, the most important in prostatic surgery are those concerning renal functional activity, namely the phenosulphonaphthalein test and blood urea estimation. The former test is so simple that it can be generally used, whilst the latter requires clinical laboratory facilities. Normally, after the intramuscular injection of six mgs. of phthalein, 40% to 60% should be excreted in the first hour, and from 10% to 20% in the second hour, ten minutes being allowed for the appearance time ordinarily. In the cases of prostatic obstruction with retention, the appearance time should be tested through a catheter and this should be left in place until the test is over so as to in-

sure complete emptying of the bladder. In cases of long standing retention, the back pressure pyelonephritis may be of such a great degree that only a trace of the dye is excreted in two hours. In such cases, there should be, of course, continuous catheter drainage as mentioned above, and it is often most surprising to see how the phthalein output increases in a few days. The appearance time and the first hour output are the most important factors in the test, however the second hour output should always be estimated, for any increase in it over the first hour is always indicative of pyelonephritis. A phthalein test of 15 minutes appearance time with a first hour output of 25% and a second hour output of 15%, is much better than one with the same appearance time and the hourly outputs reversed. These estimations should be made about twice a week until the phthalein output is either normal or remains constant over a period of time, in other words, until a state of equilibrium is attained. Then and only then is it safe to proceed with the prostatectomy. When the total phthalein output for two hours is less than 25%, blood urea estimations should be begun and continued simultaneously with the phthalein tests until both have become normal. The normal urea content for the blood is from .2 to .4 grms per litre. It sometimes increases to 2.5 grms per litre or over. Any increase above 2.5 grms per litre means uremia and is generally fatal.

After a suprapubic cystostomy for drainage the latter test alone should be relied upon for it is almost impossible to make accurate phthalein estimations through a cystostomy wound. In the two-stage suprapubic prostatectomy, which is the one ordinarily done, the time allowed for drainage is usually from ten days to two weeks.

In some instances this is enough time for recovery of renal functional activity, in a great many cases it is not and the only way to determine this is by blood urea estimations, which a great many surgeons do not take the trouble to have made. As a consequence many of these patients go into uremia and die after the prostatectomy. If it sometimes takes as long as six weeks for recovery of maximum renal functional activity, when a retention

catheter is used, it is reasonable to suppose that this cannot be accomplished by ten days to two weeks of suprapubic drainage. The fact is that prostatectomies should only be done by men who are thoroughly familiar with this type of work and are willing to give each patient the time and attention he requires for a successful outcome.

Operation:—The foregoing portion of this paper applies equally well whether the prostatectomy be done by the perineal or the suprapubic route.

The type of operation performed should be decided by the urological surgeon, as there are certain well defined indications for both types of operation which any fairminded prostatectomist will concede. Personally, I prefer the perineal operation in most instances for the following reasons: The mortality rate is lower than in the suprapubic operation; the operation is done under vision; malignancy can be readily discovered and a sub-total radical or a radical operation done as the conditions indicate.

In cases of extensive carcinoma of the prostate involving the seminal vesicles, the relief of urinary obstruction can best be accomplished by a conservative perineal prostatectomy.

Fibrous sclerotic prostates can best be removed perineally, in fact, in this type much injury is often done to the internal sphincter in the suprapubic operation and it is often impossible to remove enough of the prostate by this route to give permanent and complete relief.

Hemorrhage can best be controlled by this method, for the bleeding points can be ligated and the lateral cavities packed directly with gauze. The wound is extra vesical, the drainage dependent, and absorption of septic materials less. Abdominal distension often present after suprapubic prostatectomy is very rarely found. The patients are up and about in a few days, a most important factor in the convalescence of these cases.

Perineal prostatectomies should only be done by those who are thoroughly familiar with the anatomy of the perineum and have had special training and experience in this type of operation. These are the chief ob-

jections raised to the perineal route by those doing the suprapubic operation, but they deserve no serious consideration, provided the perineal operation insures greater safety, more satisfactory convalescence and as good, if not better, functional results.

Young's operation, in my experience, has yielded most satisfactory results with an extremely low mortality rate. I have operated on all types of prostatic enlargement by this method and have been entirely satisfied with the results obtained. Many of these patients were in a very bad condition when first seen, but under the prelininary treatment as outlined above they were gotten in shape for operation and made an extremely satisfactory convalescence.

Lately Geraghty and Cecil have devised new methods for perineal prostatectomy which are also very excellent. These different types of the perineal operation have been excellently described by the above mentioned authors, hence there need not be a repetition of the description in this uaner.

The suprapubic operation usually done is of the two stage type, but it can be done in one stage provided the preliminar^g treatment is carried out as described above. The chief indications for the suprapubic operation are: The presence of stones and diverticula of the bladder. Some of the stones may drop back into the diverticula during the perineal operation and not all be removed. However if no diverticula be present, they can be readily removed by the perineal route. If the patient has had a previous perineal operation which causes scar formation and a consequent distortion of the perineal anatomy, the prostatectomy should be done by the suprapubic route. Should the patient have had a suprapubic cystostomy for drainage, then the prostate should be done through this wound.

Post operative treatment after a perineal prostatectomy:—The patient should be placed on a mattress with a hole in it to allow the drainage tube exit to a bottle below the bed. A saline infusion of 1500 cc's is given and water forced as soon as nensea ceases. If the drainage is clear, the drains are removed at the end of 24 to 36 hours and the tube one hour later. After removal of

tube and drains patient is given a purgative and as soon as the bowels move the diet is increased. Never give an enema nor pass a rectal tube after a perineal operation. The perineal wound is irrigated with a weak antiseptic solution and clean dressings applied after each bowel movement and twice daily. The patient is gotten up in a wheel chair on the third day and allowed to walk in about ten days. Control of urination is gained in 4 to 7 days although in some cases it is present as soon as the perineal tube is removed. The patient begins to void through the urethra during the second week and the perineal wound then heals.

If the patient does not drain freely, or if there is any other evidence of lagging in renal functional activity, such as drowsiness and dryness of the tissues, a blood urea estimation should be made immediately and if this is found to be increased the proper measures for its reduction should be immediately instituted, such as saline infusions, or salt solution or glucose intravenously.

Epididymitis very seldom occurs and if it should, the application of a light ice bag to the scrotum after it has been properly elevated usually causes it to subside in a few days, epididymotomy being seldom necessary. If bleeding occurs after the removal of the drains, which is very rarely the case, pressure on the perineum usually stops it. If it should be large in amount, the lateral cavities of the prostate may have to be repacked. When this is done the tube is used as a guide for packing the cavities. It is for this reason that the tube is not removed until an hour after the drains or until all evidence of bleeding ceases. Bleeding occuring late in the convalescence is usually a sign of infection and is often accompanied by chills and fever. On discovery of any bloody drainage on the dreessings the patient should be immediately put to bed. If the bleeding is so great as to cause urinary retention on account of clots in the bladder, these must be removed through a catheter and the latter left in place until the urinary drainage is clear. Occasionally these hemorrhages may be so severe as to demand the use of salt solution intravenously, and if continued a blood trasfusion may be necessary. The latter

usually causes their immediate cessation and greatly helps the secondary anemia present.

The average time of confinement to the hospital after operation is three weeks. On discharge from the hospital a phthalein test is done and an examination of the urine made. The frequency of urination, condition of wound, etc., should be noted. The patients should report for observation two or three times during the year following the operation.

—B—

The Use of Derivatives of the Tendo Achillis in Wound Infections and in Their Prevention

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My researches in applied mythological pathology and embryology doubtless have come to your attention through the medical periodicals of both hemispheres. They have aroused the most widespread interest and have greatly enhanced my already world-wide celebrity. I know you have all read, with vivid interest, my thesis on the remarkable case of ectopic gestation and deferred parturition, whereby Minerva was born full grown and full armed from the head of Jupiter, a copy of which thesis was sent to every member of the profession, as well as to the lay press. I may add, by way of amendment to that thesis, that I have been led to the conclusion, as a result of further research, that this remarkable obstetrical malpresentation and supernormal foetation was due to metastasis and neuropathic transmission.

It gives me great pleasure, ladies and gentlemen of the Panhandle County Medical Society, to come before your learned body to-night, far removed as you are from the seat of learning where I hold my distinguished chair, with a somewhat technical and abstruse disquisition, which I trust you will follow attentively, and, if possible, comprehend.

The subject to which I invite your attention is "Some Researches Leading up to the

Important Discovery of Certain Traumatogenous Derivatives of the Tendo Achillis, and Their Applications." In other words, and put more plainly, for your comprehension, I shall present for your consideration, and I trust intelligent approval, a review of my investigations and very important discoveries in the use of extracts derived from the great tendon of the heel in the prevention and cure of wound infections.

Since reading, in the original Greek, of the wonderful immunity enjoyed by Achilles, the Grecian warrior, as a result of his suspension by the heel, when an infant, in the river Styx, and after thoroughly investigating the various manuscripts made accessible by my extensive travels, I have been led to the conclusion that the immunity enjoyed by that ancient hero was not derived from his immersion beneath the Stygian waves. Indeed, my researches, made under special difficulties, tend to show that these waters do not differ from ordinary water except in the matter of temperature and a certain distinctive odor. An effort was made in prehistoric days to deodorize this water by taking the letter N out of the name, but the odor is found to persist. Yet it is obvious that neither odor nor temperature are sufficient to account for the wonderful virtues accredited to the ancient stream. Moreover, numerous animals and men immersed therein have in every instance failed to derive any immunizing benefit therefrom. I shall now pass some of this water among you for your inspection.

I am therefore led, by my very able researches, to the deduction that the immunity enjoyed by Achilles was due rather to some principle contained in the great tendon of his heel, which, partly under the influence of gravity incident to the inversion, but more especially due to the effect of pressure or massage of the heel by which the body was suspended, was forced out into the general circulation and there acted as a sort of anti-toxin or antibody upon the infections to which the great warrior was afterwards exposed. And further, I am forced to conclude that the ultimate sad fate of this great man was due to the fact that all the immunizing principle had been expressed from the heel

*At the annual meeting of the Shawnee County Medical Society, December 4, the entertainment committee presented for the amusement of the members and guests a meeting of "The Panhandle County Medical Society," a burlesque on county society meetings in general and the Shawnee County Society in particular and this paper was read as a part of the program, by Dr. O. P. Davis.

for the protection of the more vulnerable parts, so that a wound in the heel would naturally and inevitably be most serious, and indeed even fatal. History does not disclose any other instance where a wound in the heel proved fatal, or even serious, the immunizing substance inherent there proving invariably protective. Only when this had been expelled or extruded, as in the one noted instance, did the incident wound ensuing prove serious. Indeed the very words "heel" and "healing," despite the variation in spelling, are significant of their derivation from the anatomical word "heel," just as the proper noun "Achilles" is also pregnant with meaning, "A" meaning *not*, and "chilles" (*ch* hard) meaning *to kill*—"not killed."

Acting on the hypothesis here enunciated, I have performed a vast number of experiments on dogs, men and cats, and have been able abundantly to substantiate my theory. I have found that the more prominent the heel, and the stronger the tendon thereto attached, the more copious the juice, or active principle, that may be extruded therefrom into the body, and the more complete and permanent the immunity that may result. I shall not recount the results of my efforts during the late war to render our soldiers immune, but will say, in passing, that our losses could have been reduced to a minimum had it not been for an obtuse governmental attitude.

Indeed, some persons who have been treated by this method have attained to such unusual longevity that their lives have become a burden to themselves and to society, and some method will have to be devised to bring about their necessary demise. I may add, parenthetically, that Mr. John D. Rockefeller owes his advanced age and promise of indefinitely extended life to the fact that he is so well heeled.

I desire to exhibit at this time a number of specimens of tendon taken from heels of various types of people, and also from various species of animals. (Specimens of heel tendon from white man, colored man, mule, snake, etc., were here presented.) I also invite your inspection of devices for the suspension of persons and animals for the purpose of bringing about the gravitational infiltration of the

Achilline juices, and of still other apparatus used for the extraction of the juices from the tendon, and for concentrating the same.

Since developing this "Achilline," as I have chosen to denominate this active principle elaborated from the great tendon of the heel, I have not lost a single case, where the extract was used before *rigor mortis* had set in.

In addition to the use of the gravitational infiltration method, by which a person is treated by prolonged inversion and consequent infiltration of his tissues by his own heel secretion, to which method I shall later revert, I have also used a grafting method—inserting a fragment of intensified tendon into the abdominal cavity, or into other fields where there is reason to fear infection. I should remark, in this connection, that my method of intensifying tendon is quite unique, and was hit upon by accident. It was in the course of my extensive and laborious experiments with the use of Polarine in the treatment of certain diseases that I made this discovery. I may say, parenthetically, that my use of Polarine is based on the well known accelerating and facilitating property it possesses. I found that by using this substance as an activating agent on the tissues of man or animal, said tissues, especially the heel tendons, were rendered more prolific of secretion, and consequently a greater quantity and a higher potency of the life saving "Achilline" became available. I therefore have been using Polarine as an invariable auxiliary to my recent "Achilline" therapy with most happy results.

Reverting to the inversion or suspension method of treatment, I will remark that this procedure is the preferred one in the majority of cases. And I have found it has a constantly widening field of application on account of its simplicity and the ease with which it can be used in the patient's own home. This method consists in elevating the patient by the heels, a clothespin, or other form of mechanical compression, being applied to the tendon and made to exert continuous compression, thus forcing gradually into the circulation the juices or extracts required to resist or combat infection. In case the apprehended infection is not grave, the

patient may be suspended by only one heel, the other being left disengaged, to be used for other purposes. Patients, while somewhat antipathetic to this method at the outset, soon become quite reconciled to it if the treatment is persisted in and is backed up by strong moral support. Needless to say, the inversion should be continued without intermission until the patient is permanently relieved.

Now, in conclusion, I beg to announce that I am prepared to demonstrate the gravitational infiltration method of treatment by inversion and progressive compression, if any of my auditors will kindly come forward. If anyone is sore about anything, he is especially urged to embrace this opportunity. I have facilities for the simultaneous treatment of not more than three individuals.

—B—

BELL MEMORIAL HOSPITAL CLINICS

Out-Patient Clinic of Dr. Donald R. Black

THE EFFECT OF FAT IN THE TREATMENT OF SEVERE DIABETES

Since the publications of Rolla in 1797, there have been, from time to time, clinicians, who have attempted to control severe diabetes with high fat diets. Recently, Neuberg and Marsh have reported quite a series of cases in which marked improvement has followed the use of diets very high in fat. Wordyatt, Wilder, Schaffer and others have attempted to dictate formulae for the calculation of properly balanced diets. In general they have assumed that the ratio of available fatty acid to available carbohydrate in the diet must not exceed 2:1. That ratios in excess of this figure do not permit of enough carbohydrate for the complete oxidation of fat, hence acidosis will develop. One of the arguments of the high fat advocates being that, if fat is not supplied in the diet, then tissue fat will be metabolized and that the difference in the metabolism of foreign and tissue fat is negligible. These investigators apparently assume that all diabetic individuals react in a similar manner to various articles of diet, and that if you are given a case capable of metabolizing 58% of the protein molecule as glucose then

other cases would have similar powers. To me, one of the outstanding features of metabolic cases is the fact that enormous differences in metabolism exist among different cases. We have cases who maintain weight, 30 calories per kilogram body weight, and cases that lose weight, 40 calories per kilogram, body weight. It strikes me that a method which presumes to calculate definitely the caloric needs of a given individual in terms of grams of carbohydrate, protein and fat, disregarding personal variations, falls decidedly short.

Allen long ago pointed out the danger of feeding severely diabetic animals and human beings diets high in fat. Joslin in his large experience has demonstrated the futility of high fat feeding. In Allen's classical experiments with severely diabetic dogs he showed definitely that by high fat feeding the dog would apparently improve temporarily, but in a short time would develop an uncontrollable glycosuria and also an acidosis which no dietetic means could restore to the original tolerance, to what it was before the extra fat was given. In his monograph he cites two cases in young individuals. The first of which was fed a comparatively high caloric diet rich in fat and which succumbed very early. In the second case, profiting by the failure of the first, lower fat was substituted and more marked under-nutrition used with the result of much improvement and longer life.

Certainly the present under-nutrition method of diabetic diet is far from satisfactory, and any method which would make our severe diabetic patients more comfortable and which would allow them a diet on which they could maintain a reasonable weight would be eagerly accepted by all, provided the method did not eventually shorten the length of life. The reports coming from our friends in Canada are encouraging, but of course not definitely developed.

The present case is summarized simply to show that in this particular individual even a reasonably high proportion of fat to carbohydrate and protein is not tolerated and to suggest a method by which we can approach a given individual's ability to burn fat. Assuming that fat will not burn in the absence

of carbohydrate whether from food carbohydrate or food protein and having satisfied ourselves of the carbohydrate tolerance of the individual as such, it behooves us to determine approximately the proportion of protein which can be metabolized as sugar. We have used protein tolerance tests in this connection giving 185 grams chipped beef on a fasting stomach and making blood and urine examinations at hourly intervals following.

E. J. Colored. Female. Age, 47. Entered the metabolic clinic 9-2-22. Complaining of headache, polyuria, thirst, loss of weight and general malaise. She says she eats as much as the other members of her family but that her food does her no good. She first noticed abnormal thirst and polyuria about 6 months before although she had been losing weight gradually during the past year. She says that she has been passing about a gallon of urine at night and sometimes that amount in the day time. She lost 47 pounds in weight and usually complains of severe headache, throbbing in character, most of the time. Recently she has complained of a dull, heavy sensation in her epigastrium, which she thinks is due to her stubborn constipation. She belches and has epigastric distress after meals and on several occasions has vomited hot sour material. Her eyesight has remained normal and she has not complained of shortness of breath except on exertion and has no edema. Never has had typhoid or any definite gastro-intestinal disturbances. Never has been jaundiced and never has had tonsillitis. There is no history of diabetes or nephritis in her family, however she has always been overweight.

Examination: Her eyes are negative, tonsils buried and not grossly infected. She has three apical abscesses and some pyorrhea, although most of her teeth have been extracted. Heart and lungs apparently negative. Reflexes normal. Blood pressure systolic, 130; diastolic, 80. Height 5 feet, 1 inch. Weight, 157.

Blood Chemistry on admission—

Urea	11.22 mg per 100 c. c.
Non-protein nitrogen	30 mg per 100 c. c.
Chlorides	390 mg per 100 c. c.
Creatinine	1.9 mg per 100 c. c.
Sugar	434 mg per 100 c. c.

Urine, cloudy, straw colored. Spg. 1.035. Sugar,

4%. Albumen, strong band. 15-20 pus cells, no casts, faint reaction for diacetic acid and acetone, chlorides .18%, non-protein nitrogen .82%, creatinine 85 mg.

She was instructed as follows:

1st day avoid fat entirely.

2nd day avoid fat and protein.

3rd day fast, allowing black coffee without cream or sugar and clear broth at will.

On September 6, she had only .2% sugar, no diacetic acid or acetone, she was given 300 gm. 5% vegetables, thrice cooked, in addition to her broth and coffee and on September 9, she had only a trace of sugar. She was given diets ranging from carbohydrates-10, protein-20, fat-30 to carbohydrates-20, protein-60, fat-85 and returned September 16, sugar free and without demonstrable acidosis. At this point we gave her carbohydrates-25, protein-65, fat-85, and on September 20, she had a faint trace of sugar. She fasted 24 hours and continued her diet as above and on September 23, she had 3% sugar and a trace of albumen, no casts, no diacetic acid. She fasted 24 hours and began with a diet of 300 grams 5% vegetables and carbohydrates-5, protein-10, fat-15, daily and on October 7 was sugar free but a slight amount of albumen was present and a few hyaline casts, no diacetic acid. She was given carbohydrate-20, protein-45, fat-60, and on October 21 her urine was normal. Here we added 30 grams fat and on November 4, she was sugar free and we added 30 grams fat. On November 18, she had a faint trace of sugar. We discontinued one ounce of fat and on November 25, she was sugar free, but with the addition of 30 grams butter, sugar and diacetic acid appeared on November 28.

Her diet was therefore arranged as follows: Carbohydrate-20, protein-45, fat-100. On October 24th a glucose tolerance test was made, the patient receiving 1.5 grams glucose per kilogram body weight, 210 c. c. of a 50% solution of glucose. The result was as follows:

Fasting Blood Sugar	147	Urine 0%
First hour	221	Urine .8%
Second hour	194	Urine .8%
Third hour	156	Urine .6%
Fourth hour	147	Urine .4%

Note the contrast in fasting blood sugar in September—434, in November—147. On November 11, we gave the patient 185 mg. chopped beef and made hourly examinations of the blood and urine as follows:

	N.P.N.	Urine		N.P.N.	Sugar
		Sugar	Blood Urea N		
Fasting	26%	0	8.41 mg	28.5 mg	172 mg
1st hour	44%	0	12.61 mg	37.5 mg	167 mg
2nd hour	41%	0	14.01 mg	32.3 mg	167 mg
3rd hour	41%	0	16.81 mg	34.1 mg	137 mg
4th hour	52%	0	17.52 mg	34.1 mg	200 mg

We note here a gradually increasing elevation of N. P. N. in the urine and of urea in the blood, indicating that the protein was being burned but the sugar curve is a little peculiar in that we have a sharp drop until the 4th hour when we have a rise.

Analysis of this chart suggests that sugar is not formed readily from protein and therefore that with a previously low carbohydrate tolerance fat would in all probability be poorly oxidized. By referring to her diet record it will be noted that on November 18, after having two ounces of fat extra, both sugar and diacetic acid were present within one week, but totally disappeared in a few days by merely deducting one ounce of butter. Her diet at present is carbohydrate-20, protein-45, fat-100.

Clinic of Dr. A. L. Skoog

Department of Neurology

A CASE OF PERNICIOUS ANEMIA INVOLVING ESPECIALLY THE NERVOUS SYSTEM

The patient, about to be shown, presents a medical syndrome which is adequate for a certain diagnosis of pernicious anemia. The group of subjective and objective symptoms are definitely those of a marked involvement of the nervous system. The blood picture while lacking in some of the classical text book descriptions, yet has a sufficiently well defined picture to support the diagnosis of pernicious anemia.

In the earlier period of our knowledge of pernicious anemia we were lead to believe that the morbid anatomy concerned entirely or essentially the blood and the haematopoietic organs. Studies during more recent years indicate very definitely that the central nervous system, especially the spinal cord, is involved in a strikingly large percentage of the cases. Bearing on the neural phase of the subject I might call your attention particularly to the writings of Oppenheim, Putnam and Taylor, Barrett, Woltmann, Lurie, Hamilton and Nixon, Zadek, Cadwalader, Brandes and oth-

ers. Many general practitioners do not give adequate weight to the neurological manifestations. In the literature practically nothing is said relative to the peripheral nerve involvement. Slight mention is made of the brain involvement. More has been written about the spinal cord syndrome which varies considerably. An erroneous diagnosis of tabes has been made quite frequently in the early stages of the disease. We can appreciate this error when we find that frequently early posterior column degenerations take place. Combined sclerosis of the spinal cord is an anatomical entity described in many of the text books on diseases of the nervous system, and various causes are given. Quite a number may be included under the neural group of pernicious anemia.

Before presenting this patient I might briefly call your attention to some of the more important clinical manifestations. Weakness more or less general is one of the earliest complaints. During the same time and in certain cases, even earlier than suspected by the individual, there is noted by the friends a peculiar pallor. Probably many of these patients if carefully examined before the complaints, would present an early picture of pernicious anemia if the blood and nervous system were carefully considered. Weakness gradually increases with frequent remissions. The yellow color of the skin varies considerably, and often is described as a lemon or grape fruit tinge. A peculiar puffiness of the skin or edema is frequently observed. Complaints referable to the gastrointestinal system are often recorded. Subjective and objective symptoms referable to the mouth may be cited. The patient may complain of indigestion and pains referable to the gastric region. Diarrhea occasionally may be found. Atrophies of the mucosa of the mouth, esophagus and stomach are frequent findings. Achylia gastrica, or a diminution of the hydrochloric acid and the combined acids in the gastric secretion appear early and in a particularly large percentage of the cases.

It is well known that we find a marked reduction in the erythrocytes, the count often ranging from one to two million. Counts in

the neighborhood of one-half million are on record. The red cells present many changes. Especially is the variation in size and affinity for dyes to be noted. Microcytes, macrocytes and poikilocytes are found. Erythroblasts of all kinds are to be noted in certain stages of activity of the red bone marrow. The blood platelets are said to be reduced. A mild leukopenia has been described. The hemoglobin, color index and volume index are to be considered particularly. The hemoglobin is not reduced quite in comparison with the reduction in the number of red cells. Accordingly, we find a high color index, often ranging from one and one quarter to one and a half. The reduced number of erythrocytes and the smaller reduction in the hemoglobin percentage with the characteristic color index probably will account for the striking anemia with the yellowish tint.

Case 1. The patient is a farmer, age 41, and has been married twenty years. His wife has enjoyed good health but has never been pregnant. In the report on the family I wish to call your attention to the fact that the father and mother and six brothers and sisters are reported as having died from the same cause, namely, pneumonia. Two brothers and one sister are living and in good health.

Past History. He states that he has always had "weak eyes" and worn glasses since childhood. He had pneumonia at the age of nine, small pox at twenty-seven, and measles and mumps in early childhood. He has not been constipated. Aches over the symphysis pubis have been present a long time. A dull pain in the knees has been present for many years, never very severe and would disappear on muscular exertion. He denies any venereal diseases. The libido has always been below normal. It may be stated that a definite impotency has been present during the last ten or twelve years.

Present Illness. The patient dates his illness from the middle of August, first having consulted me two months ago and has been under close observation and treatment during this period. The patient states that there was a feeling of "giving way" but that he did not think that there was any actual loss of

strength. He continued to do his farm work until entering the Hospital. The numbness was equal in both lower extremities. A peculiar drawing sensation on the inner side of the thighs was described. The numbness gradually increased until it extended up to the waist. About two months ago the sensory trouble and impaired use of the hand made its appearance. He ascribes his present acute state to excessive exertion and heat. Movements of the hand rapidly became quite clumsy. The fingers assumed a flexed attitude, more marked in the smaller ones. He states that at the onset a very sore tongue lasting about two weeks was noted. This was more marked on the edges where it was furred and indented. A considerable amount of pain was produced by mastication. A spastic, staggering gait rapidly increased until he became bed-ridden. At the time he entered the Hospital he was unable to feed or clothe himself on account of the incoordination in the upper extremities. In a second analysis of the history we can determine that probably ten months earlier he had been conscious of a queer feeling in the hip which was without pain, disturbances of coordination or power. There has been no impairment of control of the urinary or anal sphincters. He has been excessively constipated.

Physical Examination. The patient presents the appearance of a well nourished and muscular man. The hair is quite gray with baldness beginning. No abnormalities in the chest or heart. The blood pressure registered systolic 105, and diastolic 75. Excepting for much abdominal tympany nothing was noted in this region. The thyroid was normal. A post-cervical adenopathy was noted. The entire pharynx and tonsillar region was injected. The tongue possibly excessively red protrudes to the lips in the median line. A slight pyorrhoea was present.

An examination of the back reveals no spinal abnormalities. Power in all of the trunk muscles is diminished. The motor function in both the lower and the upper extremities show a diminution, more marked in the upper. There are no true paralyses. The hands are held in a flexed attitude. He is unable to hold articles between his fingers

and accordingly can not feed and dress himself. He is able to stand on his feet but there is danger of falling. No true Romberg. An extraordinary state of incoordination exists, more marked in the upper extremities. A slight widely distributed muscular atrophy possibly is present. There is a general muscular hypertonic state. All the tendon reflexes in the upper extremities are absent. Likewise do we find the absence of the patellar and Achilles tendon reflexes. The Babinski and Oppenheim are negative on both sides. The abdominal reflexes are present. The cremasterics are absent.

Epicritic sensibility is slightly impaired in the lower extremities. No trunk level line could be determined. Deep sensibility is variable. In certain areas there are evidences of some myositis or neuritis.

The pupils react well to light and accommodation. There is a slight irregularity in the pupillary outline. Eye ball movements are good. The discs show an absence of a normal cupping. Some blurring and passive hyperemia are quite evident. Vision seems good.

Laboratory Analyses. A number of blood counts have been made during the two months of observation. The erythrocyte count has ranged from 3,600,000 to 2,176,000. The leucocytes have remained from 6,250 to 8,650. The polymorphonuclears have ranged from 82 to 74 per cent, the large mononuclears 1 to 2½, and the small lymphocytes 13 to 15 per cent. No myelocytes, myeloblasts nor irritation forms have been observed. The platelet count has shown a diminution. The hemoglobin has varied from 57 to 80 per cent. The color index has been around 1.30. One blood chlorid analysis gave 400 mgs. per hundred c. c., and on another occasion 460. No certain pathological variation in the size of the reds can be determined. At no time have there been any microcytes, macrocytes, poikilocytes or erythroblasts. Gastric analyses gave a total acidity of 8, no free HCl, and deficiency of 12. An early lumbar puncture gave an initial pressure of 26 m. m. (Hgr.), and 10 m. m. after removing 25 c. c. of spinal fluid. The fluid was clear. Four lymphocytes per cu. mm. were counted. Glob-

ulin, goldsol and Wassermann tests gave negative findings. A later puncture revealed fluid under normal pressure and with a cell count of 1 lymphocyte per cu. mm.

Course. From November 10th, to November 18th, pleurisy pains were noted on both sides. Strapping the chest relieved this in a short time. During the first week in December he complained much of tenderness in or around the elbow joint. An examination revealed an extremely tender ulnar nerve in the region of the elbow joint. The tenderness ceased about 10 centimeters below the joint and gradually diminished above where it disappeared in the region of the deltoid muscle. Relief for the ulnar nerve pains was found in rest and salicylates.

During the first three weeks in the Hospital the patient continued to decline. After that period there was a gradual improvement. The yellowish color and puffiness has diminished considerably. He is also much more comfortable. The impaired vasomotor state with severe hyperhidrosis has improved greatly.

It is interesting to note that the patient admits of a marked mental impairment during the first week in the Hospital. He has stated that no memory of that period remains. Some evidence of a moderate mental instability continues.

The diagnosis is a combined cord sclerosis, multiple neuritis and cerebral changes of a diffused character. Possibly in the early stages there was some cerebral anemia. A diagnosis of pernicious anemia can be made with a certainty.

This permits an ultimate prognosis which is not good. We can anticipate remissions and a great deal of improvement for any type of pernicious anemia. However, our experience has taught us that where the central nervous system is involved the prognosis is more serious. Remissions are less frequent and shorter.

Relative to the future treatment I would suggest that he be kept away from any mental or physical stresses as far as possible. Certainly this patient stuck on his farm job longer than was best for his own welfare.

According to the suggestion of Dr. Major

he has been taking sodium chloride, 1 gram, (grains 15), three times per day after meals. Arsenic in the form of sodium cacodylate in a dosage of 2 grains three times per week by the hypodermic method will be given.

Reviewing the neural findings we can state definitely that there has been an involvement of the cervical, dorsal and lumbo-sacral portions of the spinal cord. Possibly all portions of the cord including the gray horn, anterior, posterior and lateral columns are involved, but especially has there been marked tract degenerations of the ascending spino-cerebellar pathways and the posterior column. The brain lesions are more diffused and can not be ascertained with the same degree of certainty compared with the spinal cord. There has been a very clear neuritis of the left ulnar nerve over a limited area. Other neuritic manifestations were not so definite.

In a final statement on the subject of pernicious anemia I believe we can anticipate that neural findings are more commonly present than have been reported. Spinal cord involvement with tract degenerations are frequently present. Cerebral and cerebellar involvement can be looked for in many cases. A definite neuritis and peripheral nerve involvement is not described in the average text book. This makes the third case during the past few years in which I have observed and could make a positive diagnosis of neuritis.

In behalf of this patient I am indebted to Dr. Charles Jones, of Olathe, Kansas, for referring him, Dr. Ralph Major for aid in internal medicine, and Dr. R. L. Haden for his generous interest in the laboratory work.

—R—

One Element.

BY THE PRODIGAL

An element is said to be a simple substance, one which is incapable of being split up into other substances. The chemist has isolated, described, named and classified more than eighty elements. An atom is said to be the smallest possible quantity which is capable of chemical action.

Chemistry is an exact science. It is inherent. The chemist is errant. It is known, now, that an atom is composed of electrons.

That one of these particles has about one-thousandth the mass of a hydrogen atom.

Respecting the elements, we are told that uranium may change into radium, that radium may produce helium, and that lead is the final stable result when the changes of uranium are complete.

These evolutionary changes are not taking place in chemistry but in the chemist as his knowledge increases and as he creates facilities for getting at the intricate, yet simple workings of the immutable, unchangeable way nature has energized matter or possibly matter is energy made known to us by specialized energy, our senses; and that there may be but one element and the chemist's classification of elements is simply different manifestations of "all the elements, they being the outcome of an inorganic evolution."

"Organic evolution means that the present is the child of the past and the parent of the future. It is not a power or a principle, it is a process—a process of becoming. It means that the present day animals and plants and all the subtle interrelations between them have arisen in a natural knowable way from a preceding state of affairs on the whole somewhat simpler, and that again from forms and interrelations simpler still, and so on backwards and backwards for millions of years till we lose all clues in the thick mist that hangs over life's beginning." (Thompson.)

The chemist has demonstrated that life, vitality, is a form or manifestation of energy and an essential condition of existence to animal and plant life. That "the total amount of energy remains always the same, none being lost or created in all the manifold physical processes or conversion of one kind of force to another."

Hence we learn by implication and inference, at least, with the promise of the chemist's unfolding the secrets of the yet unknown, to not be shocked when it is proven that there is but one inorganic element, and second, that life, being a form of energy and energy being always the same, never losing or adding thereto, chemistry proves life eternal.

DEC 29 1923

THE JOURNAL of The Kansas Medical Society

W. E. McVEY, M.D. - - **Editor**

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Meeting of the Council.

The regular midwinter meeting of the Council was held in the office of the Secretary, Kansas City, January 24. The meeting was called to order at 10 o'clock a. m., and adjourned at 4 o'clock p. m.

Plans for the next annual meeting of the Society at Kansas City were thoroughly discussed and several important features were agreed upon. There will be a three days session beginning on Wednesday, May 2. If possible, two medical men of national reputation will be secured for each day's program. One morning session, to be determined by the committee on arrangements, will be devoted to clinics including especially a skin disease clinic. These clinics are to be held by the guests of the Society. It was also decided that a part of one day be devoted to electrotherapeutics and allied subjects and that men of prominence in this field be secured for this part of the program. The committee was also instructed to arrange the program so that the House of Delegates may meet in the evening so that the general sessions will not be interrupted.

The Secretary reported the following standing committees, appointed by the President.

Executive Committee of Council—Dr. M. L. Perry, Chairman, Topeka; Dr. J. F. Has-

sig, Kansas City; Dr. Geo. M. Gray, Kansas City; Dr. O. P. Davis, Topeka; Dr. C. C. Goddard, Leavenworth.

Committee on Public Health and Education—Dr. S. J. Crumbine, Chairman, Topeka; Dr. Jas. W. May, Kansas City; Dr. O. D. Walker, Salina; Dr. H. E. Haskins, Kingman; Dr. E. L. Morgan, Phillipsburg.

Committee on Public Policy and Legislation—Dr. J. T. Axtell, Chairman, Newton; Dr. C. S. Huffman, Columbus; Dr. J. A. Milligan, Garnett; Dr. M. L. Perry, President ex-officio; Dr. J. F. Hassig, Secretary ex-officio.

Committee on Hospital Survey—Dr. Geo. M. Gray, Chairman, Kansas City; Dr. Jno. L. Evans, Wichita; Dr. W. M. Mills, Topeka.

Committee on Medical History—Dr. W. S. Lindsay, Chairman, Topeka; Dr. W. E. McVey, Topeka; Dr. O. D. Walker, Salina.

Committee on Scientific Work—Dr. J. F. Hassig, Chairman, Kansas City; Dr. H. L. Chambers, Lawrence; Dr. F. A. Carmichale, Osawatimie.

Committee on School of Medicine—Dr. C. C. Nesselrode, Chairman, Kansas City; Dr. Harry W. Horn, Wichita; Dr. Alfred O'Donnell, Ellsworth; Dr. Frank A. Trump, Ottawa; Dr. J. J. Brownlee, Hutchinson.

Committee on Necrology—Dr. E. E. Liggett, Chairman, Oswego; Dr. J. F. Hassig, Kansas City; Dr. W. E. McVey, Topeka.

The Editor's report was read and received and the present incumbent reelected.

The members of the Council were guests of the Wyandotte County Society in the evening and attended the banquet in a body.

—B—

Medical School Prospective

The State of Kansas has, through its legislative body, already adopted the policy of, and agreed upon plans for, the development of a great medical institution at Rosedale. This was evidenced by the appropriation made for the building of the first unit of the plant. The question which now concerns the medical profession and the people of the state, though the latter may not yet be so fully convinced, is whether the state will realize the importance of uninterrupted development of the project it has undertaken. The need for

a rapid development of the new plant is urgent. The building now under construction is located at considerable distance from the old plant and when in use will necessarily cause some inconvenience and loss of valuable time in going back and forth. It is of the utmost importance that the laboratory building be built as soon as possible.

The best available information indicates that all of the medical schools are taxed to their fullest capacity to accommodate applicants for the medical course and those in charge at Rosedale report the facilities there are greatly overtaxed with the present enrollment, which is about one-third of the total number of students from Kansas taking the medical course in this and other schools. The impression seems to grow among educators that the medical schools will soon need to limit admissions, which of course will mean that so far as the state university schools are concerned, residents of the state will have preference. Under such conditions, Kansas without greatly enlarged and improved facilities, will be badly handicapped.

Until two years ago the profession was apparently indifferent to the school because it came far short of one's ideals of a state's medical school and until that time gave no promise of ever being a credit to the state or to the medical profession. With the adoption of a new policy and the commencement of this new project every physician should show the personal interest he must feel if he be a loyal citizen and a true disciple of Aesculapius.

There were and there still are differences of opinion as to the proper location of the school, the policy of its management, the personnel of its teaching staff and other conditions and incidents, but these differences of opinion and the criticisms that result must be regarded as evidences of more than ordinary interest.

As previously suggested in these columns, a well organized and adequately equipped medical school functions in a much broader field than it did a few years ago. The service they render the public has been so extended, and the part they have played in the progress of the science of medicine has grown so increasingly important that the education of

physicians is only an incident in the history of its performances.

An appropriation of about \$480,000 will be asked of the legislative bodies now in session, to be expended during the next two years in the erection of the second unit of the proposed group of medical buildings at Rosedale. Considerable opposition is naturally to be expected from those who are willing to sacrifice all other interests to their policy of retrenchment. Physicians in every part of the state can help secure this appropriation. It is a matter in which they are concerned and about which they should feel free to counsel their representatives. It would be unfortunate indeed if this appropriation failed because the medical profession made no effort in its behalf.

—————R—————

A Blow to Hospital Standardizations

Most legislative enactments have behind them a plausible assumption that the public will be benefitted thereby. Very rarely a law is passed for the benefit of an individual or group of individuals at the expense of the public, and such laws are likely to be pernicious in their effects.

A bill has been introduced in both houses of the legislature which if passed will prevent the exclusion of any "reputable" licensed practitioners in the state from any hospital in the state. The bill (House Bill No. 137) reads as follows:

An Act to prevent discrimination in the use of hospitals supported in whole, or in part, by public subscription, donations and legacies, and providing a remedy for the violation of the same.

Be it enacted by the Legislature of the State of Kansas:

Section 1. It shall be unlawful for any person, officer, firm, corporation, board of trustees or directors, or any medical board or staff, connected with or acting for a hospital in this state, supported in whole, or in part by public subscriptions, donations, or legacies, to deny the use of said hospital to any reputable licensed physician nor surgeon, or his patients, or in any way to discriminate against said physicians or patients, except under the quarantine laws of the state of Kansas.

Sec. 2. Any person, firm or corporation and the individual members of any board of

trustees or directors, or the individual members of any medical staff, who shall violate section 1 of this act shall be liable to the party injured, to an amount three times the sum he may be injured to be recovered in any court of competent jurisdiction, together with a reasonable attorneys fee which shall be taxed as a part of costs, and the physician and surgeon so refused or discriminated against shall be entitled to the remedy of mandamus to secure his rights in said hospital.

Sec. 3. This act shall take effect upon its publication in the statute book.

Without presuming to imply that the motive behind this bill is a personal one, in its analysis one may consider as of prime importance the effect which its enactment into a law would have upon the standards of Kansas hospitals.

It rarely happens that physicians are excluded from any of our hospitals, but occasionally it does happen. In most instances of this kind there have been good and sufficient reasons, although the reasons have not been made public so that the general reputation of the physician so excluded has been but slightly if at all damaged. That some men may have been unjustly excluded, without sufficient cause, may also be granted, but the remedy for this does not lie in compelling the hospital to admit those who have proved by their acts to be unworthy, or by their practice to be incompetent.

Under such a law every hospital in Kansas, even private hospitals, will be open to every physician and every kind of patient, if it can be shown that a single donation of whatever amount has been made by a grateful patient or philanthropic friend.

—B—

To Legalize "Midwives" in Kansas

In this enlightened age, when great efforts are being made to teach the people something about health and hygiene, about diseases and the prevention of disease, it is startling to find that a bill has been introduced into the legislature which if passed will permit the licensing of midwives in Kansas. The text of the bill is as follows:

An Act to regulate the practice of midwifery in the state of Kansas, to give the State Board of Medical Examination and

Registration certain powers and duties in respect hereto, prescribing penalties for the violation hereof, and repealing all acts or parts of acts in conflict herewith.

Be it enacted by the Legislature of the State of Kansas:

Section 1. That from and after six months after the date of the passage of this act, it shall be unlawful for any person, except a duly licensed physician, to practice midwifery in this state before receiving a certificate to do so from the State Board of Medical Examination and Registration, and having said certificate registered in the office of the county clerk of the county in which the holder desires to practice midwifery.

Sec. 2. That the State Board of Medical Examination and Registration shall formulate and issue such rules and regulations, from time to time, as may be necessary for the proper conduct of the practice of midwifery by midwives and shall require every applicant for a certificate to practice midwifery to produce a diploma from an accepted school of midwifery or pass an examination which will show her to be a competent and qualified person. Said Board of Medical Examination and Registration shall issue certificates to midwives having fulfilled the requirements laid down by the said board, which certificates shall be revocable by the said board, on proof of violation of any of its rules and regulations: Provided, notice and hearing be given the party accused. he said board may refuse to grant a certificate to any person addicted to the use of alcohol, or narcotic drugs, or who may have been guilty of a crime involving moral turpitude, and may revoke a certificate, after notice and hearing, for like cause.

Sec. 3. That each and every applicant for a certificate to practice midwifery shall pay to the said board the sum of five dollars at the time of making such application, which sum the said board may use for the purpose of defraying the expenses of the said board.

Sec. 4. That any person practicing midwifery as a profession, or advertising herself as a midwife without first obtaining the certificate aforesaid, shall be deemed guilty of a misdemeanor, and upon conviction shall be punished by a fine of not less than ten dollars nor more than one hundred dollars, or by imprisonment in the county jail not less than ten days nor more than sixty days, or both fine and imprisonment, at the discretion of the court.

Sec. 5. That any person refused admittance to examination or refused a certificate or whose license has been revoked, who shall attempt or continue the practice of midwifery

shall be subject to the penalties herein prescribed.

Sec. 6. That any person, other than a regularly licensed physician, who shall attend a woman in childbirth for hire, or who shall make a practice of attending women in childbirth gratuitously or for hire shall be regarded as a midwife within the meaning of this act; Provided, that nothing in this act shall be construed to prevent anyone who is a student of medicine, matriculated at and in attendance at a legally incorporated medical school or college from practicing obstetrics under the supervision of the faculty of the medical school or college in which he is a duly registered student; Provided further that the provisions of this act do not apply to nurses or other persons who attend a case of childbirth under the direction or supervision of a regularly licensed physician.

Sec. 7. That all acts or parts of acts in conflict herewith are hereby repealed.

Sec. 8. That this act shall take effect and be in force from and after its publication in the statute book.

While this bill states that she must pass an "examination which will show her to be a competent and qualified person" it is implied that the examination shall be confined to midwifery. There is hardly a physician in the state but has practiced long enough to meet the results of amateur midwifery. Few of these women could pass an examination on obstetrics before a chiropractic board, and they will continue to relieve the women of their community of their painful burdens, license or no license. When her old friend or her old friend's daughter approaches the time of delivery, the old reliable will be sent for and will perform the duties expected of her. Of course she will make no charge, not to such an old friend. But out of gratitude and affection her old friend will send her a side of pork, a quarter of beef or anything else that she can use or convert into cash or possibly a bank note—just out of gratitude. If these amateur midwives cannot be prevented from practicing with our present law, it is very doubtful if another law will be more efficient.

It will however legalize a lot of poorly educated, partially trained specialists. We may just as well retrograde another quarter of a century and license bonesetters, or a hundred years and license lithotomists, by examina-

tions to test their knowledge of these particular subjects only.

—R—

CHIPS

One reason why knowledge is not essential is that so many of us get along without it.

The less a man understands about this world, the more he knows about the next world? The less a doctor knows about disease the more he promises his patient.

The up to the minute treatment of alopecia is a preparation made of the endocrine glands of the Mohair goat (gonads the more the better) taken internally ad libitum. There is no danger of scars resulting from this treatment. There will be no deformity, risk of sepsis, community gossip, nor a twinge of loss of self respect. It is as successful in curing baldness as flipping the cube in reducing a dislocation.

The vital statistics of the Census Bureau for 1921 show a declining death rate from heart disease, influenza, pneumonia and tuberculosis over that of any other year since 1900. While that of cancer and other malignant diseases have increased. Homicides, suicides and automobile fatalities have increased. The deaths from automobile accidents may be classed, in the main, as suicides.

Everything is big in California. A woman took her boy to a music store in Los Angeles to get a mouth organ for him. There were none in stock big enough to fit his mouth. The music man ordered one made at the factory by having the boy try his mouth on a piano.

A high protein ndiet is injurious. Leibeg and Voit taught that it required five ounces to maintain health and strength. Professor Crittenden of Yale demonstrated on athletes and soldiers that one-third of the five ounces of protein recommended by Leibeg and Voit was sufficient to maintain health and endurance.

Group practice in medicine is contagious. The single dental chair is vanishing. Group dentistry is with us. The all around doctor and dentist, like Dobbin, will soon be a remembrance.

Mental gymnastics are recommended for morons. But who is there to give the treatment?

The poor child has a better chance for life than the rich. Dr. Mary B. Baird, health supervisor, in a report on Evanston schools, Chicago, said, the majority of undernourished children were from the homes of wealthy parents.

The osteopaths have been admitted to practice in the Los Angeles County Hospital since the 1922 November election. The World Do Move?

Kellogg, M. D. says, "Better sleep before than after a meal." Maybe so. It would be getting away from the hog habit. However the hog may not care—the same as those owned by the native in Arkansaw, who had his corn crib twenty rods east of his house and his hog pen twenty rods west of his house. A visitor suggested that it would save time to have the hogs and corn nearer together. "Hell," said the native, "what does a hawg care for time."

Neutral acriflavine has been used intravenously in septicemia and similar conditions, but the available evidence does not demonstrate the value of the drug in these conditions. Also, the available evidence is insufficient to judge whether the intravenous use of the drug has dangers other than those inherent in intravenous medication. (Jour. A. M. A., Dec. 3.)

Esterol is Frederick Stearns and Company's proprietary name for benzyl succinate. The product per se is unobjectionable. The fundamental objection to Esterol and the chief reason for its non-admission to new and non-official remedies is its name. A multiplicity of names for any one medicinal substance is against the interests, not only of scientific prescribing, but also of public welfare. When acetanilid was first introduced under a thousand and one names, cases were reported in medical literature of physicians calling for acetanilid under two or more names in the same prescription. More recently there was the ridiculous duplication of

names for hexamethylenamin. Later yet came the even greater duplication in the case of phenolphthalein. Had Stearns and Co. been content to market their brand of benzyl succinate as benzyl succinate—Stearns, the product as far as the name is concerned, would have been acceptable for new and non-official remedies. Such a name would give the firm any legitimate protection which it should desire and at the same time give physicians full information about its composition. (Jour. A. M. A., Dec. 16.)

In Germany the use of preparations of silicon in the treatment of tuberculosis has been proposed on the assertion that silica was found in calcified tuberculous lesions and lung stones and that, consequently, silicon, as well as calcium, is an important element in the formation of the beneficent scar tissues whereby the lesions are healed. However, Mayer and Wells of the University of Chicago find that the content of silica is no larger than one finds in comparable uncalcified tissues of adults. The use of silicon in therapy requires better evidence than is now available. (Jour. A. M. A., Dec. 2.)

The German committee appointed to investigate the mishaps from the use of arsphenamine reported that the average of mishaps was about 1:10,000. The second report of the Committee, appointed in England by the British Medicolegal Society in 1918 to investigate the toxic action of arsphenamin, has now been made.

The report embraces 340,000 German and 140,000 English courses of arsphenamin treatment. The number of injections averaged 4.6 in Germany and 4.5 in England. The total fatalities per 10,000 cases averaged 3.8 in Germany and 4 in England. This is a proportion of 0.65 per 10,000 injections. The total of complications in the English records was 16 per 10,000. The committee report stated that arsphenamin is more effectual than any other remedy, and that the interests of the patient require arsphenamin treatment, notwithstanding the very small number of unavoidable fatalities. (Jour. A. M. A., October 14.)

In so protean a disease as syphilis, accurate

history taking is imperative. In many instances, a diagnosis of syphilis must stand or fall on the information elicited by questioning. It is daily our experience to meet with individuals who tell a story of a previous genital sore, diagnosed elsewhere as syphilis and treated with a little mercury or a few arsphenamins. Such a patient may desire information as to whether or not he is cured. A thorough clinical and laboratory examination fails to reveal any evidence of syphilis and it then becomes necessary to decide whether the original diagnosis was correct, and if the patient actually had syphilis. Inasmuch as the majority of patients in this group have been given pitifully inadequate treatment, it is obvious that the whole future course will depend on a proper decision. This can only be arrived at by a correct interpretation of accurate questioning. (Moore and Keidel.)

SOCIETIES

RICE COUNTY SOCIETY

The annual meeting of the Rice County Medical Society was held in the parlors of the Hospital at Lyons on Thursday evening, December 21, 1922.

The following members were present: Drs. Bush, Wallace, Powers, McBride, Vermillion, Fisher, Currie and Ross. Also Drs. Price and Shelksohn, who have recently located in Lyons.

Officers chosen for the coming year are: President, Dr. L. E. Vermillion, Lyons; vice president, Dr. G. E. Bush, Geneseo; secretary-treasurer, Dr. J. H. Powers, Little River; censor for three years, Dr. F. E. Wallace, Chase.

The secretary reported that a transfer card had been issued to Dr. J. G. Walker who had recently removed from our bounds to the Pacific coast.

Doctors Price and Shelksohn of Lyons were asked to secure their transfer cards to present at our next meeting.

Following adjournment, light refreshments were served by the nurses of the hospital.

The January meeting will be held in Lyons.

H. R. Ross, Secretary.

DOUGLAS COUNTY SOCIETY

At the regular monthly meeting of the Douglas County Medical Society held at Lawrence, Kan., January 4, 1923, the following officers were elected: President, H. L. Chambers, Lawrence, Kan.; vice president, W. O. Nelson, Lawrence, Kan.; secretary, H. T. Jones, Lawrence, Kan.; treasurer, E. M. Owen, Lawrence, Kan.; delegate to State Convention, J. R. Bechtel, Lawrence, Kan.; censor, C. E. Orelup, Lawrence, Kan.

H. T. JONES, Secretary.

NEMAH COUNTY SOCIETY

The last meeting for the year 1922 was held December 21st in Sabetha at Saint Anthony Hospital.

During the forenoon Dr. S. Murdock, Jr., conducted a surgical clinic. Dr. F. E. Wrightman presented and discussed several interesting heart cases and Dr. Dillingham conducted an eye clinic.

At noon the society was the guest at luncheon of the Sisters in charge of the hospital, after which the plans and specifications for the new \$150,000 addition to the hospital were shown.

At the business meeting following, Dr. W. R. Dillingham was elected president, Dr. S. Murdock, Jr., secretary, Drs. Deem, Wrightman and Fitzgerald censors for 1923. Dr. S. Murdock was chosen delegate to the Kansas Medical Society.

The Society regretted the inability of the District Counselor to attend the meeting.

S. MURDOCK, Secretary.

ELK COUNTY SOCIETY

The Elk County Medical Society met at the Civics Club rooms at the court house, January 17, Howard, Kan., at 2:30 p. m.

Papers were read by Dr. Archer of Grenola, and Dr. DePew, of Howard.

The following were elected officers for 1923:

Dr. R. C. Harner, president; Dr. F. K. Day, vice president; Dr. F. L. DePew, secretary-treasurer; Dr. J. F. Costello and Dr. R. C. Hutcheson, censors.

Those present: Dr. R. C. Hutcheson, Elk Falls; Drs. J. A. Archer and B. B. Mason,

Grenola; Dr. W. A. Staley, Moline; Drs. Harner and DePew, Howard.

The next meeting was voted to be held again in Howard, at the Hotel Howard, in the evening.

F. L. DePEW, Sec.-Treas.

MEADE-SEWARD COUNTY SOCIETY

The Meade-Seward County Medical Society met on January 18th in the office of J. W. Messersmith for the purpose of electing officers for the ensuing year, resulting as follows: Dr. B. H. Day, Hugoton, president; Dr. G. S. Smith, Liberal, vice president; Dr. J. W. Messersmith, Liberal, Secretary-treasurer.

The evening was spent in the appointing of committees to take care of the Seventh Congressional District Medical meeting which will be held in Liberal some time in May, the date to be set later. After a general meeting we decided to meet again soon and we will try and report through your paper the different committees and a program of our May meeting which we hope to be a great success.

J. B. MESSERSMITH, M.D., Sec.

DEATHS

Willard A. Haynes, Sabetha, died December 29, 1922, aged 70. He was graduated from the New York University Medical College, New York, in 1881.

Dr. Edwin D. F. Phillips died at Kansas City, Mo., December 24, 1922, from chronic nephritis. He was born in 1841, was a graduate of the Kansas City Medical College in 1876, and for many years a practitioner at Lawrence, Kansas. He was a member of the A. M. A., Kansas State and Douglas County Medical Societies.

BOOKS

The Medical Clinics of North America (Issued Serially, one number every other month). Vol. VI, Number I, July, 1922. By St. Louis Internists. Octavo of 203 pages and 61 illustrations. Per clinic year (July, 1922, to May, 1923). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

Engleback has first place in this number with a clinic on endocrine adiposity. Next comes a clinic on pubertas praecox with several case illustrations. There are clinics or

contributions by Soper, Vieder, Hempelmann, Marriott, Zahorsky, Lyter, Barnes, Schwab, Smith, Sale and Kinsella. While the St. Louis number is not so large as most of those preceding it, one finds it intensely interesting and instructive.

Surgical Clinics of North America, October number. Published by W. B. Saunders Co., Philadelphia.

In this number Mata's Clinic on arterio venous fistula of the femoral vessels is reported. A clinic on exophthalmic goiter is given by Haggard and also one on sarcoma of the spleen. Horsley describes some cases of duodenal ulcer, adeno carcinoma of the kidney, osteoma of the hard palate. Stuart McGuire has an interesting clinic showing cases of deformity of the neck, congenital hypertrophic pyloric stenosis, exophthalmic goiter. There are also clinics by Royster, Parham, Abell, Mason, Bradburn, Thompson, Scott, Blackwell and Martin.

Medical Clinics of North America, September number. Published by W. B. Saunders Company, Philadelphia.

The first article in this number of the clinics is by A. W. Hewlett on paroxysmal tachycardia, showing a case in which the frequency of the attacks was lessened by quinidin. Addis discusses protein restriction in Bright's disease. Alvarez describes the Meltzer-Lyon test in gall-bladder disease. Faber and Hadden discuss the influence of the hydrogen-ion concentration on digestion. Cheney has an article on intestinal protozoa; Kilgore, a clinic on syphilitic aortitis; Hurwitz, a paper on bacterial asthma in children. Then there are clinics by Briggs, Lisser, Best, Falconer and Morris, Harvey, Miller, Tausig, Reed and Wycoff, Porter, Kerr and Rusk.

The Propaganda for Reform in Proprietary Medicines, Vol. 2, 1922. Containing Reports of the Council on Pharmacy and Chemistry and contributions from the A. M. A. Chemical Laboratory and from The Journal of the American Medical Association. Cloth. Price, \$2.00. Pp. 603 with illustrations. Chicago: American Medical Association, 1922.

The present book is the second volume of the "Propaganda for Reform in Proprietary

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No 3.

The Use of Bone Plates and Nails in the Treatment of Fractures of the Femur and Joint Fractures.

E. E. MORRISON, M.D., Great Bend

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

Treatment of fractures is a subject that probably is as old as the origin of medicine. It is of more interest now than it has ever been before. The strenuous life of the average individual makes it necessary that the time lost from his occupation be reduced to a minimum and that the function of his injured member be unimpaired. Standard works on surgery published fifteen years ago, taught that some shortening was to be expected in fractures of the femur; that any shortening less than one and one-half inches would be compensated by a tilt of the pelvis and that the patient would walk without a limp. In recent years, considerable attention has been given to the patient who goes to his doctor complaining of backache and referred pains. His sacro-iliac synchondroses, his lumbosacral articulation and his lower transverse processes are all made subjects of careful radiographic examination and efforts are made to correct any unnatural position or tilt of these anatomical structures. Any degree of shortening is undesirable. The more intelligent and better educated public of today is not satisfied with it. Compensation laws have added a potent stimulus to fracture work and the desideratum of better results.

In the treatment of any fracture it is necessary: first, to secure an accurate reduction; and second, to maintain such reduction. Immobilization is an absolute necessity. A fracture of one of the bones of the leg or of one of the bones of the forearm may be immobilized by any one of the numerous splints devised for that purpose. A fracture of the humerus or of the femur can not be immobilized in like manner because muscular tension in that region has nothing to counteract it but

a broken bone. The fractured ends may be displaced by any movement of the injured limb. The pressure of the splint intended to maintain apposition must be transmitted through a layer of skin, one of subcutaneous fat and a heavy muscular layer. These anatomical layers form a soft cushion into which the fractured end of a bone may be easily projected.

Fractures of the femur present conditions that have always taxed the ingenuity of the surgeon. The long, heavy muscles of the thigh have a tension that is hard to overcome by the usual methods of traction. When the tension has been overcome and the fracture has been properly reduced, sufficient extension is difficult to maintain. Various methods of extension have been devised. Buck's extension has been in use for many years. The plan has been improved and modified without much increase in efficiency. Improved or unimproved, it is a standard method of securing traction and probably is the best. With the most careful and painstaking application of Buck's extension, it is not possible to accurately counterbalance the muscular tension involved. When the nearest possible approach to a perfect counteraction has been established, there are many things that may occur to upset the equilibrium. A change of position in bed, a cough or a sneeze, or a slip of the adhesive plaster, may endanger the position of the fractured ends. The Thomas splint has been brought into use for the purpose of exerting continuous traction with less danger of interference. It has disadvantages, the principal one of which is pressure necrosis under the perineal pad.

Many systems of weights, frames and pulleys have been devised. They have the fault common to all apparatus used for the same purpose of not maintaining at all times an accurate counterbalance of muscular tension.

Fractures of the femur in children offer particular and special difficulties. Children are restless often petulant and difficult to control. The Bradford frame, vertical suspension with several modifications are the most useful of non-operative procedures. They all often fail. In common with other devices they fail to secure immobilization of the fractured ends, and to accurately counteract muscular tension. Whenever extension fails, coaptation is disturbed.

Fractures of the lower third of the femur are particularly difficult to maintain in reduction because the powerful gastrocnemii pull the lower fragment back out of alignment and against the popliteal vessels and nerve. Fractures of the upper third of the femur are hard to reduce and the reduction can not be easily maintained because the strong adductors, the psoas, iliacus and glutei muscles, pull and rotate in opposite directions.

Joint fractures present unusual difficulties because the fragments are too small to be held in position by splints. The result may be serious for a joint deformity usually seriously interferes with function.

Inability to secure satisfactory results, long ago, led surgeons to consider open methods of treating fractures. The fragments were held together by silver or bronze wire, by ivory pegs and by many other plans which lack of space will not permit us to mention.

More recently various bone spikes have been used but have not found general favor because they leave a communicating sinus between the bone and the exterior. Freeman's device consisting of screws placed in the fragments and held in position by a clamp on the surface is open to the same objection. The resulting compound fracture is always a possible source of serious trouble.

At present there are two standard open methods of treating fractures. One of these is by means of the bone transplant: the other is by means of bone plates or nails. Of these two methods, the bone transplant is in greater favor. Neither method shall be used in a compound fracture or in a septic individual. In each method the wound is closed and if

the work has been clean the fracture remains a simple one.

Fixation by transplanted bone is open to objection. Two operative fields are involved instead of one. Each of these fields involves a greater area than the single one of the bone plate or nail. One of the fields is usually on the anterior part of the leg where nutrition is not of the best and where a compound fracture is most dreaded. The patient must be under anaesthesia much longer. The fixation of the fractured fragments is often not as strong and reliable as it should be.

It is urged against the metallic device that it is a foreign body apt to cause irritation and suppuration. This complication arises in poorly selected cases and in cases well selected but operated in a slovenly manner.

The writer has used the bone plate and nails for about ten years and has never yet had a complication nor has he ever found it necessary to remove the foreign body. He has been told that he is fortunate. His answer is that he has been careful and clean.

The following cases have been selected to emphasize the ideas submitted above:

Case I. Transverse fracture of the middle third of femur, treated in a base hospital by means of a Thomas splint. Result: Two inches of shortening deformity. Had been told that the shortening would be compensated by a tilting of the pelvis.

Case II. A transverse fracture of the middle third of the femur treated by means of a bone plate. Plate has been worn two years without trouble. No deformity. No loss of function.

Case III. A transverse fracture at junction of the upper and middle thirds of the femur treated by means of bone plate. Plate has been carried for three years without trouble. No deformity. No loss of function.

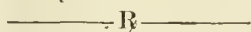
Case IV. Fracture at junction of middle and lower thirds of femur. Could not be maintained in reduction. Plate was applied at end of three weeks. Operation was done two months before film was made. No trouble of any sort.

Case V. Fracture of lower end of tibia beginning at middle of articular surface and extending transversely from side to side

breaking off from the front of the tibia a triangular piece of bone about one inch long. Dislocation of foot forward resulted. Reduction could not be maintained. Fragment was nailed. Normal function was restored.

Case VI. Fracture of lower end of tibia similar to above, except, fragment was comminuted. Fragments were nailed. No loss of function.

Case VII. Fracture external condyle of femur. Fragment was $\frac{1}{2}$ inch wide and $1\frac{1}{2}$ inches long. Could not be retained by immobilization. Was nailed. No loss of function. Nails have been worn without inconvenience for six years.



Usual and Unusual Cases of Angina Pectoris

J. ARTHUR BUCHANAN, M.D., M.S.,

Pueblo, Colo.

Angina pectoris is the expression of a disease that besets man by paroxysms of pain which last from a few minutes to hours. The attacks usually begin after the fortieth year of life, and occur more frequently in men than in women.

The tearing, boring, twisting, or pressing pain of angina pectoris varies markedly in its degree of intensity, its point of manifestation, and the extent and direction of radiation. Indeed, the pain may be absent entirely during an attack. The pain is usually substernal, or precordial in location, but at times is located in the abdomen. The radiation of the pain is most commonly to the left shoulder and arm, but radiation to a distant point is not uncommon. The history of a sudden onset of a particular type of pain, associated with a subjective sense of impending harm, and a physical impression of inability to carry on should produce no uncertainty that a significant event has occurred in the life of the patient (Case 1). The attacks ordinarily end abruptly with complete restoration of the previous state of well being, but at times a sense of soreness at the site of the pain, or a generalized sense of weakness remains temporarily as a residue of the attack. A feeling of uncertainty in the evaluation of these symptoms is introduced frequently by an absence of physical signs of the heart, together with a lack of change in blood pressure and

pulse. While the lack of objective definiteness in the physical examination creates an atmosphere of mystery and interest for angina pectoris, only disastrous results follow a too liberal interpretation of certain types of thoracic and abdominal pain.

THE USUAL CASE OF ANGINA PECTORIS

Case 1 (No. 2467). Mrs. C. A., physician's wife, aged 40, first came under observation in the Pueblo Clinic because of attacks of precordial pain. The family history was negative. She was the mother of two healthy normal boys. She had had acute rheumatic fever at seventeen years of age. The menopause occurred at 43, and was uncomplicated. Earlier in life she had had a pelvic operation, but did not know the nature of it. The trouble began two weeks before admission to the clinic with attacks of precordial pain, which were brought on by exertion. The attacks were very brief in duration, but the patient's activities were brought to a standstill because of the severity of the pain. The attacks became more frequent and more severe, until the patient was seized suddenly, while walking, with an extremely severe pain over the cardiac area with radiation to the whole left upper extremity (Figure 1). The pain lasted about two hours, and the patient feared that she was going to die. The pain was sharp, tearing in character, and so severe that the patient prayed that she might be spared such agony again. The patient was under observation in the hospital for ten days, and while resting in bed had no attacks. Three weeks after the first severe attack she was seized with another paroxysm of pain which was equally as bad as the first. During the attacks the blood pressure was 180 systolic and 100 diastolic; the pulses were eighty-four each minute, and of very poor quality. During the intervals the blood pressure was 160 systolic and 100 diastolic, while the pulses were seventy-two each minute, and of good quality. On examination the arteries were found to be soft and compressible; the heart was two by eleven centimeters in transverse diameter; a loud systolic mitral murmur, which was transmitted to the axilla, was heard; the second pulmonic sound was accentuated; there were frequent prema-

ture contractions of the heart. The muscle sounds of the heart were very faint. There were no abnormal findings in the abdomen, and the reflexes were normal. The laboratory examination showed a negative Wassermann reaction in the blood serum; cytological examination of the blood was negative, and the urine showed no abnormal elements.

This case furnishes an excellent example of the usual case of angina pectoris and the recognition of the exact cause of illness in the patient offered no difficulties. The associated mitral regurgitation and myocardial

pain over the lower end of the sternum and the scrobiculus cordis. The family history was negative, except for the sudden death of her mother from an unknown cause. The patient was the mother of four living healthy children, and had had two miscarriages. The menopause occurred at 45 and was uneventful. She had had scarlet fever as a child, but otherwise had been very well, except for obstinate constipation. One year previously while preparing to come from Denver to Pueblo, she was seized suddenly with severe pain over the lower end of the sternum and in the pit of the abdomen, which was pointed out by the patient as meaning over the gall bladder and liver. The pain lasted a few minutes and then disappeared. During the year two mild attacks of a similar character occurred, but were not associated with exertion. The patient walked twelve blocks to and from church every Sunday without discomfort. Four days before admission to the Clinic the patient was preparing again to come from Denver to Pueblo, and while hurrying in the preparation of breakfast was seized suddenly with a severe pain over the liver and gall bladder region. The pain was relieved by one-eighth grain of codein sulphate and a soda mint tablet. On the day of arrival in Pueblo three severe, but brief, attacks of pain occurred. There was some radiation of pain to the right shoulder in these attacks. There had been no radiation during previous attacks. The pain was described as exploding in character. It came on by crescendo and disappeared suddenly. During the last two days before admission she had had a considerable degree of nausea, and some vomiting. Vomiting appeared to relieve the pain. She never had been jaundiced. There was no chronic post prandial distress. There were no urinary symptoms. During the three weeks prior to admission she had noticed some shortness of breath on exertion, and at these times felt "a little peculiar" distress over the heart area. There had been no edema of the legs, and the health had been good between attacks. During the hours preceding my examination, numbness, for the first time, was noticed all over the left upper extremity. On examination the

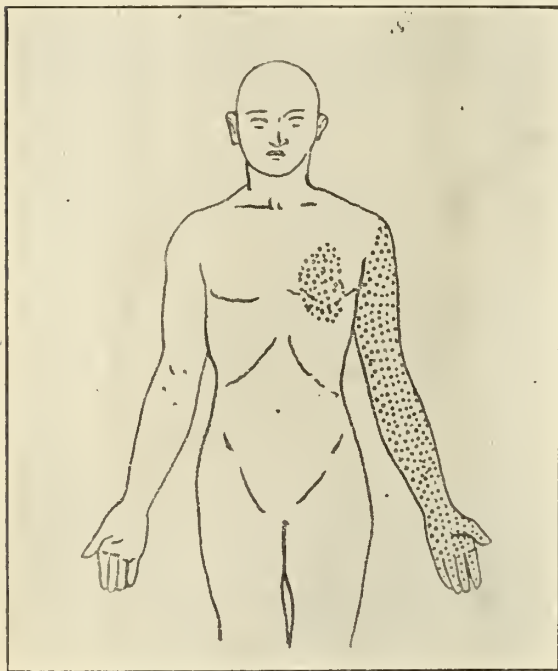


FIGURE 1.

Showing the origin of pain over the precordium and radiation to the whole left upper extremity.

degeneration were no doubt contributory factors.

THE UNUSUAL CASE OF ANGINA PECTORIS

The manifestation of the pain of angina pectoris at a site out of the ordinary always presents a diagnostic difficulty. The significance of the patient's complaint is often revealed by repeated observations, while at times sudden death (Case 2) and definite autopsy findings explain the cause of the symptoms.

Case 2 (No. 298). Mrs. G. B. C., aged 63, physician's wife, admitted to the Pueblo Clinic on June 20, 1922, complaining of severe

patient presented a good color, and had not the appearance of extreme illness. She co-operated in every way during the examination. The arteries were soft; the pulses were ninety-six each minute, regular and of good quality. The systolic blood pressure was 140 and the diastolic 90. The heart was two by nine centimeters in transverse diameter by percussion. There was no accentuation nor reduplication of the second heart sounds. The first heart sound was of good quality. On abdominal examination some tenderness was found on deep palpation over the gall bladder area. The reflexes were all present and normal. Ten minutes after the examination was completed the patient asked for a drink of water, and when the attendant left the room there was nothing alarming in the patient's appearance. Almost upon leaving the room, the attendant was startled by a piercing cry from the patient, and in a few seconds the attendant was back in the room, but found the patient unconscious and extremely pallid. Death occurred in less than a minute. The night urine measured 360 cc and contained a slight trace of albumen; sp. gr. 1.030, and 0.64 volume per cent of sugar. The Wassermann reaction on blood serum was negative. At autopsy, the gall bladder, liver, stomach, pancreas, small intestines, kidneys, and spleen were found to be normal. The mid-portion of the transverse colon was two and one-half centimeters in diameter for a distance of twelve centimeters, but normal from all other standpoints. The pericardium was distended, and contained about 250 cc of seroanguineous fluid and some large clots, which were very soft. On the anterior surface of the left ventricle one centimeter from the interventricular septum and two centimeters from apex, a narrow slit was found, with fairly clean cut edges. The transverse diameter of the heart was twelve centimeters and the general appearance of the muscle was normal. The anterior aortic cusp showed a thick calcareous nodule about two millimeters square; a similar plaque was on the median leaflet, and near the bases of the valves there were a few small calcareous nodules. The left coronary artery orifice was open and admitted a small probe. When the left

coronary artery was dissected free from the heart muscle, it was found occluded throughout its length (Figure 2), except for the first two millimeters of its course, with a clear white organized thrombus. A small occluded branch of the left coronary artery led to the area of rupture. At this point the heart muscle was much thinned and measured two millimeters in thickness, and on the inner surface the endocardium was ragged (Figure 3). The left ventricle contained no blood,



FIGURE 2.

Photograph of much thickened and totally occluded main portion of the left coronary artery.

except for a small clot, five millimeters in diameter, which was at the very apex of the heart. The muscle elsewhere was normal in appearance. The right coronary artery was dissected out, and no thrombi were found, but scattered along the course of the artery there were many small calcareous areas.

The clinical diagnosis in this case had been a differential one between the abdominal type of angina pectoris and cholecystitis with cholelithiasis. The sudden death with autopsy findings confirmed the former. Rupture of the heart muscle as a sequel of angina pectoris occurs in an unfixed percentage of cases.

In some cases the usual manifestations of angina pectoris become complicated by a new set of symptoms (Case 3), which mask and modify the clinical picture, although this modification may be only temporary.

Case 3 (No. 1843). Mr. A. E. R., age 46, was admitted to the Pueblo Clinic on August 31, 1922, complaining of intense, agonizing pain beneath the upper portion of the sternum. He had had typhoid fever many years

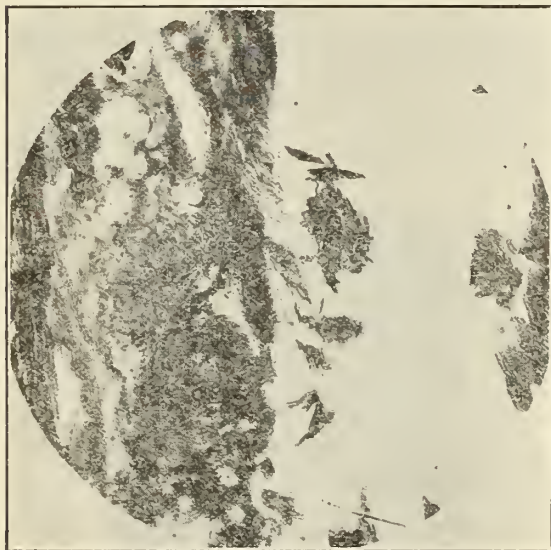


FIGURE 3.

Photomicrograph (45x) of the area of rupture in the anterior surface of left ventricle. The thrombus was torn from the artery in this section. The area about artery is composed of hyalinized fibrous tissue behind which normal muscle was found. Normal heart muscle occurred at other side of rupture.

previously, but otherwise had always enjoyed good health. There were no children in the family. Six weeks previous to admission he had been seized suddenly, while exerting, with a severe griping, tearing pain beneath the sternum with radiation to both arms. The attack lasted but a very short time. As time went on increasingly less exertion produced an attack. Twelve hours before admission he began having extreme tearing, agonizing pain beneath the sternum with radiation to left arm and hand. A considerable degree of shortness of breath was noted. At that time the physical examination showed a systolic blood pressure of 170 and a diastolic of 120. The pulses were seventy-eight each minute, and showed frequent premature contractions. The heart tones were of fair quality. The facial expression was agonized and anxious. The patient had been given previously a quarter grain of morphine sulphate, which afforded no relief. The patient fell asleep, however, after the administration of two

perles of amyl nitrite by inhalation; one thirtieth of a grain of nitroglycerin by lingual absorption, and one-half of a grain of morphine sulphate by hypodermic injection. The patient remained quiet all day, and in the evening the blood pressure was 150 systolic and 100 diastolic. During the next twelve hours the patient took by lingual absorption, on three occasions, a one-hundredth grain tablet of nitroglycerin. After each tablet he fell asleep as the pain was relieved. During the night of August 31, 1922, the patient awoke with pain along the left costal margin. This pain was an entirely new symptom. At 8:30 a. m. September 1, 1922, pain appeared over the lower fourth of the cardiac area. There were no changes in the heart sounds. At 10:30 a. m. a friction rub was audible over the lower one-fourth of the cardiac area. The rub was not quite synchronous with either systole or diastole. The temperature had risen to 101° F. The pulses were 102 each minute, regular and bounding in character.

A peculiar bluish discoloration had appeared under the chin, and extended down over the anterior portion of the neck to Louis' angle. Large beads of perspiration stood out over the forehead. There was an indistinct pinkish, blotchy discoloration over the abdomen. The blotches did not fade on pressure. The patient was sent to the hospital and on admission the blood count showed 17,200 leucocytes, of which eighty per cent were polymorphonuclear neutrophils, one per cent large mononuclear lymphocytes, and twelve per cent small mononuclear lymphocytes. In the evening of the same day, the friction rub had disappeared entirely, but a systolic murmur was heard superficially over the lower precordium. The pain had decreased. The patient showed diminished expansion of the left lower chest, and there was no movement of the left diaphragm. The pain was pointed out subjectively as beneath the heart. The pulses were 120 each minute. The patient continued to sweat freely. On the morning of September 3, the pulses were 102 each minute, of fair quality, and rhythmical. The temperature was normal in the morning. No pericardial friction sounds were heard. The heart tones were of good quality and no pain

was present over the precordium. A low grade evening temperature occurred, and continued to occur each evening for five days. Each day the general condition improved gradually. He was discharged from the hospital at the end of the ninth day. Ten days later the patient had another slight attack of precordia pain, which lasted about thirty minutes. The pain was brought on by slight exertion and was relieved by nitroglycerin. Since this time the patient has had no attacks of pain, but has lived an exceedingly guarded life. The blood pressure has fallen to 130 systolic and 90 diastolic.

In this case typical attacks of angina pectoris became complicated with what was evidently a very transient acute pericarditis, and a more prolonged attack of left diaphragmatic pleurisy.

DISCUSSION

The pathway to the recognition of the cause of symptoms is through a careful history, which consumes time in the analysis of each phase of the complaint under consideration. Angina pectoris can be recognized only by a study of symptoms.

The watchword in the management of patients with angina pectoris is rest. In spite of normal or near normal tones of the heart muscle and valves, patients with the symptoms of true angina pectoris never should be left with the impression that the complaint is not of serious significance. On the other hand, the outlook should be depicted not too darkly, as by careful management and time the trouble often ameliorates and occasionally disappears entirely. This fact should lead physicians to be cautious in telling patients that angina pectoris is always dependent on a sclerosis of the coronary arteries, as all people know that hardened arteries are not to be softened by any type of treatment or management. Furthermore, pathologic studies have found actual coronary sclerosis in only about fifty per cent of the patients dying with angina pectoris.

The critical period of the life of a patient with angina pectoris is during the first year of the trouble when ignorance of limitations prevails, and experience has had no opportunity to impress the patient with the fact that

to avoid exertion is quite essential in the prevention of seizures.

—R—

The Antigenic Differences of *B. Typhosus* and Their Relation to the Widal and Vaccination.*

CORA M. DOWNS

Assistant Professor of Bacteriology, University of Kansas, Lawrence.

Read before a meeting of the Kansas Medical Laboratory Association, Topeka, Kansas, December 14, 1922.

By the use of artificially prepared immune serum for agglutination and absorption tests the thirty-four strains of *B. typhosus* used were divided into three antigenically different groups. A series of Widal's was set up using the macroscopic method. Both dried blood and serum drawn from the clot were used. Five organisms were selected. Numbers 1, 2 and 3 had been found to be somewhat irregular in their agglutination reactions, No. 12, the Rawlin's strain (Army vaccine strain) and No. 10 Mt. Sinai strain. The Widal's confirmed the previous agglutination tests—No. 1, 2 and 3 giving 52, 45 and 60 per cent positive respectively while strains No. 12 and 10 gave 93 and 95 per cent positive.

A consideration of the literature showed a number of cases of typhoid occurring in vaccinated individuals. On view of these laboratory findings and the reports in the literature it would seem to be advisable to use a polyvalent serum for diagnostic purposes, one or more strains of easily agglutinable cultures in setting up Widal's and possibly more than one of strain in the preparation of typhoid vaccine.

The usual method of making a Widal test and the usual method of immunization against typhoid, using only one strain of the organism, assumes that typhoid is an entirely homogenous group. Of late years it has been found that pneumococci could be grouped into four definite types, meningococci into 2 types and dysentery into 3 or more types. These results have found a definite application in diagnostic and immunological work.

In view of the above facts it seems reason-

*Report of original work was published in the Kansas Science Bulletin.

able to look for similar antigenic differences among typhoid strains. If differences in agglutinability and antigenic power were found they would have a practical bearing on the following points:

1. The use of a polyvalent rather than a monovalent serum for identification of freshly isolated organisms.
2. The strains of organisms selected for Widal tests.
3. The occurrence of cases of typhoid after vaccination and the advisability of using a polyvalent vaccine.

Hooker¹ in 1916 and Weiss² in 1917 divide their strains of typhoid into three groups according to antigenic differences displayed in agglutination and absorption tests. We had observed the following irregularities in some of our laboratory strains. In five strains of typhoid tested against three sera from different sources, two cultures gave complete agglutination with one serum and negative with two others. Two cultures gave agglutination with all three sera and one culture gave negative with one and positive with the other two sera. These anomalous results were not due to recent isolation as each organism had been repeatedly transferred before testing. Because of these results it was decided to conduct some experimental work using strains collected from as many different sources as possible. Eleven strains were blood, stool and urine cultures from cases in Lawrence and vicinity, twenty-three were from various parts of the country, some old and some recently isolated. Culturally they were all found to be typically typhoids. The antigenic differences found could not be correlated with the age of the cultures nor the locality from which they came.

By means of agglutination tests with artificially prepared immune serum our strains could be grouped into three types. Group 1 was made up of eighteen organisms, group 2 of seventeen organisms and group 3 of two organisms. Group 1 serum agglutinates all the other organisms in this group in dilutions as high as that given for the homologous organisms; group 1 serum also agglutinates group 2 organisms but in lower dilutions; conversely the group 1 organisms were agglu-

tinated by group 2 serum but in lower dilutions than the group 2 organisms. These two groups are closely related and interagglutinate to a marked degree. Group 3 consisting of two strains interagglutinate perfectly at 1-15,000 but this high titred serum agglutinates members of the other groups in low dilutions or not at all. In high titred serum these agglutinative differences between groups 1 and 2 became more perceptible in the higher dilutions and tended to disappear in the low dilutions, the antigenic differences between group 3 and the other groups was apparent in low dilutions however. Absorption tests were done and the same antigenic differences were observed but to a somewhat greater degree than in the agglutination tests. Such antigenic differences make the use of a polyvalent serum for diagnostic purposes imperative.

In running Widal's in this laboratory it was customary to set up each serum with typhosus, Para A and Para B. One such Widal giving negative with one strain of typhosus was set up again with two different strains. It again gave negative with the original strain used but was positive with the other two. Later B typhosus was isolated from this patient and was agglutinated by the patient's blood.

For the experimental Widal's the sera were obtained from various sources, some came as clinical cases from Lawrence and the vicinity and others as positive Widal's from reliable laboratories. On inquiry it was found that most of the laboratories used the Rawlings strain of typhoid. This organism is used for the preparation of the Army vaccine. It is especially suitable for use in vaccines and agglutination tests because it forms a soft homogeneous suspension in salt solution and has no tendency toward spontaneous clumping.

Serum drawn from the clot and drops of dried blood were used and all tests were set up by the macroscopic method. Serum drawn from the clot and used within 24 to 48 hours gave positive agglutination with a larger number of organisms than in the tests where dried blood was used. In Widal's run with dried blood precipitation was usually marked

in the tubes giving a positive Widal. This might be due to the presence of hemoglobin, foreign substances on the metal slides or paper, some change in reaction or biochemical change. No precipitate was noticed in Widal's run with clear serum.

Stober³ mentions the occurrence of precipitation using immune serum. In the tests four laboratory strains were used: No. 1 from blood cultures of a case in Lawrence, No. 2 and No. 3 from the New York Board of Health, No. 12 the Rawlings strain and No. 10 known as the Mt. Sinai strain.

No. 1 gave 52% positive.

No. 2 gave 45% positive.

No. 3 gave 60% positive.

No. 10 gave 93% positive.

No. 12 gave 95% positive.

The results in the Widal's confirmed the tests made with artificially prepared serum in that in both tests No. 1, 2 and 3 did not agglutinate in as high a titre as the other organisms. In view of these results it would seem advisable to use some strain which was recognized as an easily agglutinable one, such as the Rawlings or Mt. Sinai strain and if possible to use two strains of typhoid for each Widal.

There are several reports in the literature which corroborate our findings. Stober³ reports three negative Widal's and seven positive Widal's using an organism isolated from urine. Mock⁴ reports negative agglutination with typical typhoid organisms in several cases. Robinson⁵ on the other hand in a series of 100 Widal's using the Worcester and Rawlings strains reports no variability. The recommendation of the Dreyer method that a standard suspension of an organism of known agglutinability be used is significant of the need for uniformity which has been felt in laboratory work. The slightly higher number of positives using serum rather than dried blood seems to be due to the fact that the antigenic differences between the strains is exaggerated in the dried blood methods.

A consideration of recent literature (^{4, 6, 7, 8, 9, 10, 11, 12}) available shows that there are a number of cases of typhoid reported as occurring in vaccinated persons, although the ratio of cases to the number vaccinated is

very small. I have collected reports of 231 cases of undoubted typhoid occurring in individuals vaccinated within a year of the attack.

Col. Russell¹³ states that 1,056 cases of typhoid occurred in the Army from April 1917 to 1919 among 4,000,000 vaccinated.

Zinsser¹⁴ suggests that it is not impossible that the ideal vaccine should contain a number of different strains while Vaughn¹⁵ makes the following statement: "It is possible and indeed highly probably that in so far as vaccination has failed it is due to the disease being caused by other members of the typhoid group which is in all probability much larger than is now appreciated." In view of the many antigenic differences reported from various laboratories and the definite, if small percentage of cases of typhoid occurring in vaccinated persons it would seem that the ideal vaccine for prophylaxis should contain more than one strain of typhoid.

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—R—

Some Aspects of Endocrinology.

C. I. REED, University of Kansas

Read before Kansas Academy of Science, February 16, 1923.

To many persons, both lay and professional the phrase "internal secretion" still connotes something very mysterious and endowed with almost magical potency. Since the time about thirty years ago when the French physiologist Brown-Sequard accidentally turned the interest of investigators in this direction, at some time or other almost every ailment

known has been charged to the account of some one of the so-called glands of internal secretion. And commercial houses, and, unfortunately, many physicians have exploited various therapeutic preparations of these glands as curative agents of marvelous, even magical, efficacy.

An almost unbelievable amount of literature on the subject of endocrinology has accumulated. To attempt to gain any more than a cursory knowledge of this conglomerate mass or to give a resume of it would be a task of Angean proportions. I wish merely to present a brief discussion of some of the outstanding developments of the present day in hopes that it may have a beneficial effect in, as one author states, "checking the riotous development of pluri-glandular quackery" and "temper enthusiasm for a fashionable theory with common sense."

It must be borne in mind that much of the evidence that has been brought to bear at various times in support or controversion of particular theories as to the physiological functions of one or another of these glands, is the result of the use of chemical preparations of the glands in laboratory and dietetic experiments. Results obtained in this way are purely pharmacologic and indicate little as to the nature of the physiologic processes.

Another block of evidence has come from the clinical observation of the end results of disturbances and the beneficial effects of the use of certain therapeutic preparations.

It is not, then, surprising that many commercial manufacturers of biologic products, some clinicians and even some laboratory investigators have allowed their enthusiasm to carry them to unjustifiable certainty in the application of laboratory findings in endocrinology to clinical fields.

Hoskins has recently pointed out that there is still some doubt as to the way in which disturbances of function of endocrine glands may be manifested clinically. He assumes that each gland may display normality, dysfunction, hyperfunction, hypofunction, dysfunction plus hyperfunction, and dysfunction plus hypofunction, six conditions in all, and that the possible number of combinations of

these is 10,077,696 if there are, as claimed, nine glands in this group.

This assumption, whether to be taken seriously or not, serves to point out the extremely complex nature of the relations of these groups to varieties of clinical conditions.

This same author suggests the use of the term "incretion," as less cumbersome than "internal secretion" and at the same time equally expressive.

A summing up of present knowledge of each one of the organs in the series would be too laborious a task for the present. It is merely desired to present a few brief facts.

Clinically, the best application of the researches in endocrinology is to be found in the work on the thyroid gland. Though often overlooked, thyroid conditions are claimed to be relatively easy of diagnosis, and treatment, in view of the results of Marine's work, should also be comparatively simple. In goiter regions a very small amount of iodine will readily prevent the onset of symptoms so commonly found, especially among young people.

Parathyroid physiology has become a subject of great interest in the light of recent work tending to show that the tetany following extirpation is due to toxin formation.

In the opinion of many physiologists the theory of emergency function of the adrenal glands is now well established, while others are still inclined to doubt the validity of proof.

Much publicity has attended recent developments in connection with the gonads or sex glands. Steinach's grafting operations for rejuvenation seem to have aroused new interest in a field long uninvestigated. In the minds of many investigators, the author included, there is little speculative justification for hopes of extensive results in this direction in spite of many favorable reports.

Therapeutic preparations of various sorts, especially corpus luteum, have attained considerable popularity among clinicians though there is no very clear understanding of the processes whereby beneficial results are obtained.

In consideration of the pituitary body, it is probable that the posterior lobe in which

so much interest has centered is not physiologically active. One theory holds that pituitrin is present in the posterior lobe merely by accident in transit from other portions of the gland.

The anterior lobe, on the basis of feeding experiments is possibly a stimulator of sexual precocity and fecundity.

Feeding of dried pituitary gland has given some good results in cases of excessive obesity.

Pituitrin, while still of doubtful physiological importance, is becoming increasingly useful in clinical treatment of diabetes insipidus, intestinal atony, surgical shock, and in obstetrical practice.

In all the mass of material emanating from the laboratory, the hospital and the clinician's office on the subject of internal secretions, by far the most outstanding development of recent years is the brilliant work on the pancreas by MacLeod and his colleagues at McGill University. It has long been recognized that removal of this gland resulted in the production of diabetes. Ligation of the duct caused atrophy of the main part of the gland leaving only the islands of Langerhans. Diabetes does not now occur showing that these masses of cells are productive of an "incretion" which controls sugar mobilization.

MacLeod carried out this part of the operation and after atrophy of the body of the pancreas has occurred prepared an extract from the remnants which he calls "insulin," which was found to be active in controlling sugar mobilization in cases of diabetes.

The handling of this new product is almost unique in medical history. The discovery of "insulin" was not extensively announced until the process had been patented and the patent rights made over to the University. These precautions were taken to prevent undue exploitation of the preparation by commercial manufacturers, at least until the workers themselves are better satisfied as to the extent to which the substance may be relied upon, for while very promising results have been obtained, they do not feel that these findings are beyond question.

This cautiously conservative attitude is

very refreshing after one has waded through thousands of pages of extravagant claims and counterclaims based upon the author's evident desire to get into print and exploit a personal theory at the expense of scientific fact. It is to be hoped that more workers in this as well as other fields of physiology will profit by these examples, in which case, we may expect in the future less prolific production of literature and more actual production of fact.

—R—

The Raw Serum Wassermann in a Small Laboratory.

WILLIAM E. BURNS

Director Johnson Hospital Laboratory, Chanute, Kansas.

Read before a meeting of the Kansas Medical Laboratory Association, Topeka, Kansas, December 14, 1922.

It is not the object in presenting this paper to give you new findings in the field of Wassermann research. Developments in the Wassermann technique have for the present apparently reached a standstill and each operator must therefore choose for himself the method that to his mind best suits his needs. No one can say that this method or that method is the correct one to use. It is true that some forms of technique are more sensitive than others, in fact there have been presented methods that are now regarded as too sensitive and false results therefore obtained. Large laboratories are in a position to check these various methods and report on their merits while the small laboratory must of necessity be governed by their findings.

The small commercial or hospital laboratory is presented with a problem that does not have to be met in the large laboratory. While it is a simple matter to secure negative control specimens the positive specimen is at times not to be had at all. This becomes a matter of grave concern to the small laboratory for at times there will be a period of from a few days to even a month when no positive bloods will be found. Also the number of specimens received will be small. The positive controls cannot be carried thru this period and the operator is left without this most important point in his test.

It is this phase of the question that leads

me to present to you my method of using a raw serum method in conjunction with my regular Wassermann technique. I would not in the least advocate the lowering of the standards that have been set up for the guiding of the Wassermann reaction. There is no room for argument with those who would be so foolish as to suggest the omission of the above mentioned step in the test.

It was in meeting the problem of this type that I was led to cast about, to try out and adopt the modification of Hecht-Weinberg using the technique as worked out by Gradwohl. Let me say in the beginning that the objection to this method which is offered by so many, viz. that of being a cumbersome test, is well grounded for when used with a large number of tests it becomes time consuming. However in the small laboratory where the number of tests received is small this objection does not have to be met, for it is far better to spend a few minutes extra time in an endeavor to secure reliable results than to not use it and take a chance.

You who are familiar with the test will recall these facts: First, that only the natural complement and amboceptor are used. The only outside reagents being those of antigen and a five per cent suspension of washed sheep corpuscles. Second, that with the antigen of known value the only control used in the test is that of the hemolytic system. The point I wish to emphasize here is that by using a double system, one of which requires no positive control and the other with the control required but not obtained, a more scientific and reliable report can be rendered.

Before entering further into the discussion let us take up the technique of the test. Gradwohl gives it as follows: Place in a rack fourteen small test tubes. The first ten of these tubes are used to determine the hemolytic index of the suspected blood. By this I mean the exact amount of hemolytic amboceptor present in the given blood serum. The last four tubes are used in the actual test. Add 0.1 c. c. of the fresh unheated patient's blood serum to each of the first ten tubes. Then add decreasing amounts of normal salt solution to these tubes, beginning with 1 c. c. then 0.9, 0.8, 0.7, 0.6, 0.5

0.4, 0.3, 0.2 and 0.1 c. c. to the succeeding nine tubes. Next add increasing amounts of the fresh 5 per cent suspension of sheep's blood, starting with 0.1 c. c. and ending with 1 c. c. Place the rack in the water bath for one-half hour. The tube which last shows complete hemolysis constitutes the "hemolytic index"; if it is tube four, the index is four, because this tube has received 0.4 c. c. of the sheep corpuscles and therefore we have obtained an idea as to how much sheep blood is to be added to the last four tubes. The first three tubes (11, 12, and 13) constitute the tubes for the actual test, while the last tube in the rack (14) serves as the serum control tube. Tubes 11, 12 and 13 receive, therefore, the patient's serum, the proper amount of sheep's corpuscles, depending on the hemolytic index, rising strengths of antigen but no complement and no amboceptor. Tube 14 receives only sheep corpuscles, but no antigen.

In my technic I use 0.1 c. c. of a diluted antigen, determined by titration, in tube 11, 0.15 c. c. antigen in tube 12 and 0.2 c. c. in tube 13. In order to equalize the volume of the fluid in all these tubes, I add 0.2 c. c. normal saline to tube 11, 0.15 c. c. to tube 12, 0.1 c. c. to tube 13 and 0.3 c. c. to tube 14. The tubes are then agitated and placed in the water bath for half an hour. These last four tubes are filled at the time I make the additions to the first ten and are left with them in the water bath for one-half hour for fixation of complement, the rack is then taken out and the hemolytic index computed. If the index is low, say from 1:4, I add 0.1 c. c. of the sheep's' blood to the last four tubes. If the index is between 5 and 7, I use 0.15 c. c. sheep's' blood to the last four tubes; if between 8 and 10, I add 0.2 c. c.; if the index is over 10, I rack up ten more tubes and repeat the titration of the natural complement and amboceptor, then I estimate that; if between 11 and 15, I use 0.25 c. c.; if between 15 and 18, I use 0.3 c. c. and if between 18 and 20, I use 0.35 c. c. If the patient's serum has an index below 2, I regard the reaction of doubtful value. If it is above 2, I regard it as absolute. The reaction is read off exactly as in the Wassermann, that is, inhibition or noninhibition of hemolysis. If the amount

of complement or natural amboceptor is very low, we can add the proper amount of guinea pig's serum or rabbit's immune serum, ascertained by preliminary titration.

In practice I have not adhered strictly to the above technic but have omitted the titration tubes above number six, using therefore ten tubes in the complete test. In my work the percentage of sera which have a hemolytic index above this point is so small that I prefer using this shortened method and rack up additional tubes in case the index is above tube six. The following illustration will show clearly the methods used in this test.

The time schedule I use allows this method to be used very nicely. My sheep is bled the morning of the run. By the time the corpuscles are washed and standardized the sera have all been separated, antigens and complement diluted. At the proper time the complement titration is set up and incubation begun just as soon as the corpuscle suspension is standardized and added. As a rule it is a simple matter to have the set up for the Hecht-Gradwohl test all ready for the corpuscle suspension so that it is only a few minutes until this method is incubating to find the index of the various sera. As you will readily see the titration of the hemolytic index will be completed before the unit of complement has been determined and the second stage of the test started before the set up for the older test can be made. The inactivation of the patients serum is begun just as soon as it is evident no more of it will be needed in the titration. I have observed it to be usually the case that the Hecht-Gradwohl test is entirely completed before the regular test can be started. This is especially true of the tests that are negative and have a high index.

It is not the intention of this paper to advocate this test as better or more sensitive than some of the other methods now in use but to demonstrate its value when used in conjunction with the older methods. I do not believe that the test will ever be used alone, due mainly to the fact that it is necessary to have fresh sera to bring out its full operation. Gradwohl states that he finds 98 per cent of the sera to contain sufficient complement and

amboceptor for the test. This is due to the fact that his specimens are seldom more than 24 hours old at the time the test is made. I have observed that approximately ten per cent of my specimens did not have sufficient complement and amboceptor for the test but this is without doubt due to the fact that no attention has been paid to the time elapsing before the run was made. On one occasion the specimen was six days old and gave an index of three. This index was probably high in the beginning and decreased a little each day.

That the test is of more value than the regular Wassermann is brought out in the conclusions of Gradwohl in reporting 10,000 tests in which his new test was run in conjunction with the old Wassermann technic. He says: "We have approximately from 15 to 20 per cent more positives with this method than with the Wassermann. We have found the Hecht-Gradwohl test strongly positive in latent syphilis where the Wassermann was negative. We have always found the Hecht-Gradwohl test positive when the Wassermann was positive. In no case out of the ten thousand records has the Wassermann ever been positive and the Hecht-Gradwohl test negative." In regard to this last statement I might say that twice in the last two years I have found a positive Wassermann and a negative Hecht-Gradwohl test. I was not able to secure a check on these specimens and have regarded it as an error in technic.

We recently had a case which came to our attention through the routing work of the hospital. A female, married, with two children was taking a month of rest and diet treatment. She complained of nervousness, abdominal pain and weakness. The blood count and urine were normal. Regular Wassermann negative. The Hecht-Gradwohl test gave a test of No. 1-2+; No. 2-3+; No. 3-4+. Because of this result a check was made on the blood which gave the same result. At the same time the gonococcus complement fixation test gave a four plus reaction. The patient left the hospital and returned one week later. At operation the uterus was found to be enlarged and both tubes sealed. Both ovaries were firmly bound with adhesions one being removed because of the num-

ber of cysts present. To my knowledge no history has been secured relative to the luetic infection but I feel sure that the partial reaction which was obtained must have been due to this cause.

Research work recently reported shows that there are other methods that will give this same increased percentage of positives as that obtained with the Hecht-Gradwohl test but in the smaller laboratory where these methods are used it becomes still more necessary that all work must be carefully controlled. It is just here that I feel that the Hecht-Gradwohl fills the need that many an operator has experienced.

In conclusion I wish to say that I have not attempted to present any new ideas relative to the Wassermann test but have endeavored to show a method whereby a small laboratory with but a few tests to run can make their tests in a thoroughly reliable manner. The advantages of using the Hecht-Gradwohl method in conjunction with whatever modification is used have been presented.

—R—

The New Arsenic and Bismuth Preparations in Syphilis.

Pomaret (Urol. & Gnt. Rev.) gives a succinct summary of the recent French work upon arsenic and bismuth, and discusses the respective value of each of the preparations and of the best method of their use in the light of experimental and clinical facts. He, as well as Harrison, is of the opinion that 606 is more efficient when introduced intramuscularly. The following are the practical conclusions enumerated by the author:

1. The intensive treatment of syphilis remains as before the medication with trivalent arsenic having as its fundamental active constituent the base of 606 or amino-arsenophenol. For the venous route 914 or novarsenobenzol remains the preparation which is particularly indicated. For the intramuscular route, the base of 606 or the preparation 132 fills a gap in therapeutics, making it possible by a simple technique to obtain the same therapeutic results as with the intravenous method with less noxious effect as shown by the absence of shock, the nitritoid crises, and the possibility of treating intensively by this

method those who are intolerant of intravenous injections.

2. As regards bismuth therapy, we think that it demands further study and research to determine its posology and the respective indications of the soluble and of the insoluble salts. Particularly is it to be recommended in cases in which the specific lesions are resistant to mercury and arsenic; perhaps they are indicated in neurosyphilis, as recent work in this direction has indicated.

Bismuth medication shows itself to be complementary, more active certainly than mercury since it can be used in much higher doses than the latter, but still remaining behind arsenicals in intensive treatment, the serological activity of the latter being much more considerable.

3. The mixed therapy, arseno-bismuth, under the proper conditions of technique which unites the rapid treponemicidal action of the one with the remarkable power which the arsenicals have to reduce the Bordet Wassermann reaction in a short space of time, it appears to the author to be the medication of the future, particularly indicated where "strong and quick" action is desired. (Am. Med. Hygiene Assoc.)

—R—

Present Status of Insulin.

The investigators of "Insulin"—the new pancreatic extract proposed for the treatment of diabetes—have applied for a patent on the product in Canada, United States and Great Britain. The patent for Canada and the United States has been tendered, when granted, to the University of Toronto. The University proposes to safeguard the product against commercial exploitation and to ensure the marketing of a standardized product. From the present indications it is hoped that the experimental period will be ended during the first half of 1923 so that the product will become available. Dr. McLeod believes that "Insulin" will never entirely replace careful dietary regulations, but that it is of undoubted value in assisting the weakened power to metabolize carbohydrates.

It is to be hoped that the University of Toronto will be able to control the advertising claims and methods of marketing of the product. Jour. A. M. A., Jan. 6.)

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Some changes have been made in the committees appointed by the President, since the list was published. Dr. W. S. Lindsay is Chairman of the Committee on Legislation and Dr. W. E. McVey is Chairman of the Committee on History.

Economy of Efficiency.

It is generally recognized that efficiency is economy. Whether this is a modern or an ancient conception, it is in these modern times that its practical value is most frequently demonstrated. In private enterprises its recognition is almost universal. In public affairs it is a subject for much discussion but discussion which rarely results in a consensus of opinion. Public administrative and executive bodies are prone to reverse the proposition and assume that economy is efficiency. At any rate there is a noticeable inconsistency in the application of these principles in the administration of state affairs.

Some of our state institutions, for instance, are put in the charge of men who have been selected for their special training, extended experience or technical ability for the line of duty required. At biennial periods these men are expected to report in detail the affairs of their particular departments, and they are also required to prepare for the information of the administrative and legislative bodies a

memorandum of the requirements of these institutions for the next biennium. Presumably these men, who have been appointed for their special fitness, are fully competent to determine such requirements, but the legislative body, composed of men of more or less prominence in the different localities in the state—elected particularly for their loyalty to one or the other political party—frequently fail to appreciate this fact. The superintendent's point of view is the greater efficiency of the institution of which he is in charge. The legislators point of view is economy—which to him means a diminished appropriation for the biennial session, for which he considers himself responsible to his constituents. The administration demands efficiency in the superintendent in the management of his institution whether sufficient funds are supplied or not, but both the administrative and legislative bodies estimate their own efficiency by the amount of tax reduction they are able to show.

A superintendent recommends the expenditure of \$100,000 in order that he may save an expense of \$25,000 per year for the next ten years. The legislator sees only the increased appropriation, the future saving in the expense of that institution and its increased efficiency do not register on his mental tablet.

Efficiency in medicine plays a very important part in economy. Sickness must always be regarded as a loss and to whatever extent sickness may be reduced so much at least has our economic status been improved.

There is still much to be added to our efficiency in diagnosis, there are still too many definite clinical signs and symptoms—too many indications of specific disease that are not themselves specific. There is still too much uncertainty in our classifications of disease. In some instances, a group of symptoms that may be caused by various pathologic lesions is classified as a disease, in other instances a group of symptoms produced by either of several pathologic lesions is described under as many different names. Necessarily this leads to confusion in diagnosis, particularly in the determination of definite signs. More careful and thorough clinical

study will ultimately clear away this fog. Much has already been accomplished by improvements in methods of examination and by the perfection of mechanical and laboratory aids.

It must be admitted, however, that while these aids to diagnosis have added greatly to our diagnostic efficiency, they have detracted somewhat from the skill of the clinician—his accuracy of observation, his perception of clinical signs, and particularly his confidence in the evidence of his various senses. Billings says that the general practitioner should make a correct diagnosis in 80 per cent of the cases he sees without the aid of laboratory findings other than the simple tests he can make in his own office. It is the 20 per cent that he fails to diagnose correctly that makes him feel the need of laboratory aids and makes him lose confidence in his own skill. Men who had no hesitancy in making a diagnosis of pulmonary tuberculosis on their clinical findings, a few years ago, prefer now to have the report of a roentgenologist before giving a definite opinion. The same is true with surgeons who formerly did not hesitate to operate on the evidences they found, and who rarely were mistaken in their judgment of those findings. But it is the rare mistake that has been made that weakens his confidence in his own judgment or his own perception—that impels him to seek such confirmatory evidence as can be secured. If errors were made only in cases where the clinical evidence has been doubtful or uncertain the problem would be easily solved, but it is not so.

The result is that physicians are making more careful and more thorough examinations of all their cases and are coming more and more to require the services of the commercial laboratories and roentgenologists. The fact that in a large majority of cases these laboratory findings confirm the findings of the physician does not restrict his demand upon their services, but on the contrary it impresses him with their great importance and indispensibility.

Under present conditions the cost of an accurate diagnosis, one that carries the full confidence of the physician making it and one that the people are now only willing to ac-

cept, is a matter of considerable importance and to many people entirely beyond their utmost ability to meet. Efficiency in diagnosis is economy, but efficiency in diagnosis at the present cost of a multitude of laboratory tests is economy only when it makes possible the abatement or cure of the disease which has been diagnosed, or leads to the abandonment of unnecessary or futile operations or useless or unpromising methods of treatment. It may be worth \$50.00 to \$100.00 to a patient to get a correct diagnosis of his ailment, but it is not always worth that much to him to prove to the doctor that his diagnosis is correct.

The point is simply that physicians should not become too dependent on these very valuable and indispensable aids to diagnosis, but should cultivate more assiduously their powers of observation and perfect the perceptive powers of their senses and train their minds to arrange in logical sequence their findings in every case. For too much dependence will diminish rather than increase their diagnostic acumen.

Clinical teachers, consultants and members of hospital staffs probably realize more fully than those in general practice the great importance of complete history taking of all cases that are examined or treated. Their histories become especially valuable in subsequent illnesses of the patient but might be of exceeding value to physicians who may be subsequently in charge of the case, if they could be made available to him.

If case histories, together with all the laboratory reports and clinical findings, were supplied to each patient, he would no doubt be saved much unnecessary expense and any physician he might consult would be materially aided in his service. It is doubtful if such a plan would prove practical or satisfactory. It does seem, however, that some plan might be developed by which the case histories—of all the illnesses—of the people in each community might be carefully preserved and made available to any physician who had need of them.

A sort of clearing house for case records might be established where each physician

would file the records of the cases under his charge. In a short period of years there would be on file a complete case record of all the illnesses of one's patient and his ancestors. Would it be worth while? If the clinical history of a patient is of any value, then such a history obtained from records made by physicians in attendance at his various periods of illness should be more reliable and more instructive than any that could be obtained from the patient himself.

One wonders, of course, if such a plan could be carried out. It is doubtful. In the first place, we are not yet sold to the advantage to ourselves of case histories. It is only after the details of a case have been forgotten that we find the greatest need for the record. If one could be convinced that his success or his reputation in the next ten years would depend upon the records he keeps now, he might be more diligent in the matter. Every physician has had some occasion to regret his inability to inspect the case records of the several physicians that have treated his patient in previous years. It is doubtful, however, if such experiences would convince him of the advantages of a reciprocity arrangement along these lines.

CHIPS

"Wisdom is to the mind what health is to the body."

History tells us that both Greek and Roman, in ancient times, had a right to look over their offspring and decide which should be kept.

A plagiarist is one who uses the words of another in expressing his thought before the originator's words are forgotten.

Thomson says, "The Electron is an atom, of disembodied electricity." And that electrons in rapid motion is what is meant by "electric current." That the electrons have a nucleus and this nucleus is named the *proton*.

"Experiments show that human blood transferred into a dog or monkey behaves in a hostile way to the other blood and des-

troys the red blood corpuscles. But when it is transfused into a chimpanzee there is a harmonious mingling of the two."

Query—Does this show man's blood relation with the higher apes?

It is stated that 49 per cent of patients with gall stones have achlorhydria while 23 per cent have hyperchlorhydria.

Granting that rheumatoid arthritis is always due to focal infection, correction of oral sepsis by removing the teeth and tonsils and draining the nasal sinuses, is in many instances insufficient to bring about relief. In such cases the probability of an intestinal infection should be kept in mind.

The Committee on Arrangements for the A. M. A. meeting at San Francisco has arranged for a number of very interesting side trips for those who plan to take a vacation in connection with their attendance at the meeting.

Trips to Hawaii, to Alaska, to the National Parks, and to the Canadian Rockies have been planned. Full information regarding these trips, automobile routes to San Francisco and other matters connected with this meeting may be secured from Dr. W. E. Musgrave, 806-809 Balboa Bldg., San Francisco, Calif.

In the May number of the Japan Medical World is a partial report of the sixth annual meeting of the Japan Medical Association which was held from April 1 to 5. There were seventeen sectional meetings and a part of the papers read are listed. According to the printed list there were 786 papers read in ten of these sections.

There were 64 papers read in the section in Physiology, Chemistry and Pharmacology in two days. There were 104 papers read in the Section on Pathology and two special lectures in three days. There were 170 papers read in two divisions of the Section on Internal Medicine in three days. There were 141 papers read in the Section of Surgery and 102 in the Section of Gynecology. And this was only a part of the program. That must have been a real society meeting, but how do they do it?

Kiyono found that animals can be immunized against tuberculosis by injecting living bacilli treated with 40-50 per cent alcohol. He also found that immunization could be produced by injecting bacilli which have been exposed to the sunlight long enough to weaken, but not to kill them.

Maurice Fishberg says, in the Medical Clinics for North America, Nov. 22, that, according to investigations made during the past ten years, pulmonary tuberculosis occurs most frequently in persons in whom the atrophy of the lymphoid tissue in Waldeyer's tonsillar ring is extreme; and that when it appears in patients with large tonsils, adenoid vegetations and enlarged lymphoid follicles on the back of the pharynx, the tuberculous process in the lungs runs a mild course and tends to recovery in the vast majority of cases. He also states that in cases of hypertrophied tonsils that show positive or dubious signs and symptoms of inactive or quiescent tuberculous lesions in the lungs, the tuberculosis is reactivated soon after tonsillectomy; and that in active cases tonsillectomy is often followed by tuberculosis of the larynx.

It was a common belief among the people, fifty years ago, that severe febrile diseases cleaned the system of certain chronic affections. Frequently one was heard to say that a severe attack of typhoid fever had cured his rheumatism and it was also frequently stated that a severe attack of smallpox cured syphilis.

Von Wagner's new treatment of general paralysis, tabes and other forms of neurosyphilis explains the theory if not the facts in these claims. This treatment consists in inoculating the paralytic patient with the blood of a patient suffering from tertian malaria, untreated with quinine. The patient so inoculated is permitted to have some 10 or 12 attacks. The malaria is then checked with quinine and salvarsan administered. Of one series of 141 parietic patients 51 were completely cured.

Emory and Moran (Paris) claim that bismuth is far superior to mercury in the treatment of syphilis. It is rapidly disseminated

throughout the organism and rapidly eliminated. They believe that syphilis can be treated effectually in all its stages by bismuth alone, but do not advocate an exclusive bismuth treatment. They advise also the use of arsenical preparations and mercury to some extent.

Achlorhydria is far more constant in pernicious anemia than any other symptoms, not excluding anemia, says Hurst in the Lancet. The absence of hydrochloric acid persists throughout the whole period of digestion. There is abundant evidence that the achlorhydria precedes the development of the anemia and persists during the intervals of improvement even though the anemia may disappear, as evidenced by the haemoglobin percentage and the cell count.

Eighty per cent of the cases of pernicious anemia show definite signs of spinal cord disease. The symptoms, physical signs and pathological changes are those of subacute combined degeneration of the spinal cord. In all of the cases of pernicious anemia examined (9) and in four cases of subacute combined degeneration of the cord, streptococcus longus was found.

His conclusion is that while achlorhydria is an essential factor in the causation of pernicious anemia, the intestinal infection by the streptococcus longus is the immediate cause. There is an oral sepsis, the absence of hydrochloric acid in the stomach prevents the normal bactericidal action of the gastric juice, and the organisms are permitted to pass into the intestine.

A Councilman in Glendale, California, a city of about 40,000 inhabitants, has introduced an ordinance to inoculate dogs against rabies. No license could be given without the dog having been treated. The fee for the license and treatment to be from five to seven dollars.

This ordinance applies to cats, also, and it would be a misdemeanor to keep a dog or cat for which a certificate of vaccination had not been issued and a fine of not more than \$500 or more than six months in jail would be the penalty.

The dog and cat are deserving the protec-

tion as well as the human and it would be double protection to man aside from freedom of greater punishment of the dog by muzzling.

Cold light, that is light without heat, is the goal of the alchemist. Nature has shown that it can be did, by doing it in the lightning bug.

Takumitsu reports that a cortical layer preparation not only inhibits adrenalin secretion but it also produces a substance that neutralizes adrenalin. The normal thyroid and the thyroid in Basedow's disease facilitates adrenalin secretion, but if the vagus nerves are cut the adrenalin secretion is suspended for about a quarter of an hour. The cortical layer of the suprarenal capsules counteracts the thyroid. The infusion of the spleen inhibits adrenalin secretion and has a vasodilatory action. The infusion of the posterior lobe of the pituitary body inhibits adrenalin secretion, but that of the anterior lobe enhances it, and both are vasodilatory. The pineal body and the corpus luteum enhance adrenalin secretion.

Iridiagnosis is made by an examination of the eye. A number of diseases can be detected in their incipency by a careful examination with the naked eye and by the aid of the ophthalmoscope of the exterior and interior of the eye, before grosser lesions present in other parts of the body or make themselves known. An accurate knowledge of the appearance of the normal eye may be of great aid to the physician in his practice both as preventive and curative of the multitudinous cults in medicine at the present time but little is said of Peczelyism. "Iridiagnosis was a system proclaimed by Ignaz Peczely, a Hungarian physician, in a book published in 1880." Peczelyism has more merit in it than many of the cults.

The weak link in all cult chains is that they fracture the axiom. They claim that "a part of a thing is greater than the whole thing."

An organ disappears or becomes rudimentary by non use or when there is no longer use for it. In a few generations from the

present time the human family will be toothless. This evolutionary change is on the way.

The chin also will become rudimentary. The nose will be the apex of the two angles. The angles will be obtuse or acute according to the kind of nose worn—that is, aquiline, Roman or pug.

This change is being gradually encouraged and wrought out by the character of the food eaten, it being now prepared and served in powdered, mushy and fluid form, and gulped down without the necessity for chewing. There are advantages in toothlessness. No teeth, no toothache, no fetid breath from rotten teeth, no pyorrhea, no tooth brushes, no dentists. Hence there will be freedom from pain, economy and a great saving of labor, in addition to a facial appearance and expression that will require no mask or make up to join the K. K. K.

Strychnin and Disturbances of The Vision
The use of strychnin in the treatment of certain visual disturbances appears to be extensive. Its use in ophthalmology was introduced in 1830. In text books the claims for the usefulness of the drug in these conditions run from mere assertions regarding the usefulness of the drug in certain eye conditions to statements that it actually increases the acuity and field of vision within an hour after injection of therapeutic doses. Occasionally there is a statement to the effect that the good results from strychnin are due to psychic influences. And now, ninety-two years after its proposed use, experiments have been made to indicate that the latter opinion is probably correct and that strychnin is without action on vision. (Jour. A. M. A., Feb. 10, 1923, p. 406.)

An association of physicians and surgeons has recently been organized in Kansas City to be known as the "Kansas City Clinical Society." The purpose of the formation of this Clinical Society, according to its Constitution and By-Laws, is:

"To promote, encourage and develop the educational advantages of the clinical material of Kansas City and so systematize and coordinate the Clinics of Greater Kansas City

that they may be available throughout the year to visiting physicians."

The officers and executive committee of the Society are as follows: President, Dr. E. H. Skinner; Vice President, Dr. L. F. Barney; Secretary, Dr. James R. McVay; Treasurer, Dr. Joseph Kimberlin; Executive Committee, Dr. Jabez N. Jackson, Dr. Wm. J. Frick, Dr. Howard Hill, Dr. F. D. Dickson and Dr. C. D. Francisco.

A maternity hospital in Kansas City, Missouri—not one of those advertised in the *Journal*—is sending out literature in which it states that it is "strictly ethical * * * Our regular physicians fee of \$30.00 for services rendered is mailed immediately upon registration of the patient."

The people that are sending out this literature seem to have a unique conception of "strictly ethical" and an erroneous impression of the character of Kansas physicians. There is no physician in Kansas mean enough to sell the reputation of an unfortunate, misguided girl for \$30.00.

Colwell reports (British Med. Jr.) a case of hemiplegia in a young child followed by locomotor ataxia. The patient inherited syphilis and developed a vascular lesion in base of brain, when 3 years old, causing a right hemiplegia and aphasia. There was diminution of size and strength of right side, more marked in right hand. Locomotor ataxia developed at 15 years of age, with ptosis and diplopia. Wassermann was double positive. Patient was given injections of novarsenobillon, and there was improvement in general health with more control of the ptosis and locomotion, but Wassermann remained positive.

—B—

Reflections by the Prodigal

Living in the past is the privilege of age. Eve's tempter whispers of the sweet to them, and eschews the bitter. Successes are etched on memory's tablet. Failures, mistakes, exhibitions of meddlesomeness and brilliant displays of ignorance become effaced, erased or forgotten. "Blessed is the power of forgetfulness."

It is not our purpose to cast a stigma upon

the medical men of the past generation, nor to shadowly dim the lustre of their achievements—for we are one of them who is heading for the Psalmist's age limit; but rather to curb the swelling tide of "ego" that might dim the halo of the past by its "fundamentalisms." And it may lessen the steps and smooth and shorten the road for the medical pilgrims now journeying on the boulevard to the Medical Mecca, by a few mental sign boards, calling attention to the wrong roads traversed in getting where we are at on the few right roads.

It may also have a tendency to lessen the acerbity and intolerance of the regular medical men toward the laity in their clamoring for liberalism in the practice of medicine and the support of the cults, when errancy has been shown and continues in the household of faith.

During my tutelage in medicine in the '70's it was my privilege, duty and honor to engineer a teakettle spouted vessel filled with a five per cent solution of carbolyzed water and heated to boiling by a spirit lamp under the pot and the steam sprayed over the site of the operation and the operators hands while he was operating. It was the exception for the wound in a capital operation to heal without laudable pus. Such an operation was commended. It was an improvement over an operation in which there was an ichorous or sanguineous discharge. Probing of wounds not only with an instrument (maybe it had been washed) but with the finger, in bullet and other penetrating wounds was common practice. The finger was the most sensitive probe and often unwashed was stuck into the wound. Such treated wounds healed, if at all, by second or third intention, after discharging laudable or sanguineous pus and fluid or all of them in their order.

But the surgeon was not the only one who groped in ignorance but now has made great amends. I saw cantharides blister the back of the neck of a progressive insane person, repeatedly, on the same identical spot until there was a raw surface as large as the palm of the hand and cracks a half inch in depth in the raw flesh. Setons were used. In the horse this practice was called rowling. It

consisted of pinching up a fold of skin, punching a hole through the fold and running a string or piece of rope through the hole and tying the loose ends of the string or rope together. Left in situ the flesh around the rope or string rotted and in this way the disease was let out and the blood purified.

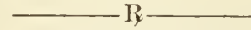
Venesection or phlebotomy was common practice and often the bleeding was continued until the patient fainted. Puking and purging and nasty tasting medicine was the stock in trade of some of the old practitioners. Vaccination for smallpox was done by taking a piece of the scab from off one vaccinated person and shoving it under the skin of the subject to be vaccinated. An exfoliated scab was wrapped in a piece of paper and carried in the saddle bags for varying periods of time to be used when occasion called for it. A teaspoon, called a calomel spoon, was used in dosing out calomel. Poulticing with all kinds of material from cow fertilizer up was universal practice in case of sores and boils. A pot full of sulphur was burned in a room to disinfect it or the room or whole inside of the house was sprayed with formaldehyde. Phenacetin or some of the coal tar preparations were used to control fever. I was in an office one day when the doctor came in all flushed with success and perfectly delighted by having reduced a temperature in a typhoid patient from 106° to 102° in a very short time by the use of phenacetin. The drug he said was perfectly safe and the greatest boon to medicine that had been discovered. His patient died before his time. The depressing agent overdid itself.

A book would not contain an account of the mistakes of regular medicine. Neither would a book contain an account of the credit regular medicine deserves and the advance it has made in profiting by its mistakes, and by experiment and investigation. But where it has fallen down is in its intolerance and trying to prevent others from achievements unless done in its way. And the people are resenting the interference.

There are two editorials in the January number of this Journal, viz., "Sensible Legislation" and "Promises vs. Results," bearing

a similar relation of Regular Medicine toward the cults and the laity that the Sermon on the Mount bears toward the moral conduct of man to man.

The Regular Medical Profession has been doing the right thing in the wrong way according to public opinion.



DEATHS

Edgar Clarence Taylor, Pretty Prairie, aged 46, died December 28, 1922, from tuberculosis. He graduated from the University Medical College of Kansas City, Mo., in 1909. He served in the M. C. U. S. Army during the World War with the rank of captain. He was a member of the Kansas Medical Society.

Emil Kuder, Coffeyville, aged 71, died January 2, 1923, from uremia. He was licensed in Kansas in 1901. He was a veteran of the Franco-Prussian War.

Donald W. Campbell, Atchison, aged 60, died suddenly, January 20, 1923, from heart disease. He graduated from the University of Michigan Medical School, Ann Arbor, in 1880.

Joseph C. Hughes, Ottawa, aged 79, died January 24, 1923. He was graduated from the Starling Medical College, Columbus, Ohio, in 1869.

Samuel E. Reynolds, Clay Center, aged 77, died, January 22, 1923. He was graduated from the Medical College of Ohio, Cincinnati, 1873.

James Claude Wilhoit, Manhattan, died February 17, 1923, from pneumonia. He was graduated from the University of Louisville Medical Department, Louisville, Ky., 1907. He was a member of the Kansas Medical Society.

Milton Emerson Lake, Erie, Kansas, aged 65, died, February 7, 1923, from acute dilatation of the heart and pneumonia. He was graduated from the Medical College of Indiana, Indianapolis, in 1885. He was also a druggist. He was a member of the Kansas Medical Society.

SOCIETIES

DECATUR-NORTON COUNTY SOCIETY

The Decatur-Norton County Society was held at Norton on March 12. In the forenoon, the members visited the State Sanatorium for Tuberculosis where a luncheon was served.

At 2:00 p. m. the Society convened in the Commercial Club Rooms where the following program was presented:

Review of Article "How I Won the Battle With Tuberculosis in My Own Home." Dr. F. L. Loveland, Topeka.

"Clinics." Dr. S. L. Cox, Topeka.

"State Tuberculosis Association." Dr. C. H. Lerrigo, Topeka.

Annual Address. Dr. W. C. Lathrop, Norton.

Secretary's report and election of officers followed the program.

DOUGLAS COUNTY SOCIETY

The monthly meeting of the Douglas County Medical Society was held at Lawrence, Kan., March 1, 1923.

The paper for the evening was "A History of Urology," by Dr. L. Rosenwald, Urologist, of Kansas City, Mo.

H. T. JONES, Sec.

STAFFORD COUNTY SOCIETY

Society met in St. John Wednesday, Feb. 14th, at 3:00 p. m. In the absence of Dr. Hart, the president, the meeting was called to order by the vice president, Dr. L. E. Mock.

The following members were present: W. L. Butler, Stafford; H. H. Miner, Macksville; C. S. Adams, J. C. Ulrey, L. E. Mock, J. T. Scott, St. John.

A paper on Diabetes Mellitus was read by Dr. Mock in which he discussed the early and also modern teaching regarding its pathogeny and treatment. His conclusions regarding treatment were that dietetic measures are of first importance and if properly observed the need for medicinal measures will be insignificant. Arsenical preparations and thyroid extract were mentioned as valuable agents in suitable cases, also mercury and iodides especially in cases giving a specific

history. Alkalies he used and recommended only in cases that could not be dietetically controlled, claiming that the patients that were properly fed would be in no danger of acidosis and its resulting condition, diabetic coma.

During the discussion the Sajous theory and definition of the disease were considered. Dr. Sajous of Philadelphia divides diabetes into two forms: Sthenic Glycosuria in which there is hyperactivity of the adrenal system and Asthenic Glycosuria in which there is hypoactivity of this system. When the two forms are carefully differentiated then, says Sajous, arsenic becomes a specific in the former and thyroid extract in the latter.

The society had as a guest Dr. W. R. Butler of Boone, North Carolina.

The March meeting will be devoted to case reports.

J. T. SCOTT, Sec.

GOLDEN BELT SOCIETY

The quarterly meeting of the Golden Belt Medical Society was held at Manhattan, Jan. 4. There were forty members present.

The following program was presented:

X-Ray Findings in Some Unusual Gastric Cases (illustrated with lantern slides). Dr. O. R. Brittain, Salina.

Goitre. Dr. Arthur Hertzler, Halstead.

Necrosis of the Mandible—with report of a case. Dr. H. L. Chambers, Lawrence.

Renal Causes of Abdominal Pain. Dr. Arthur D. Gray, Topeka.

Motion Pictures Procured from the Clinico Film Service Library, New York, on the following subjects:

(a) Chronic Diarrhoea; Ulcerative, Irritative, Obstructive. Dr. S. Gant.

(b) Diagnosis of Tumor of the Right Lobe of the Cerebellum. Dr. Frederick Tilney. (Professor of Neurology at Columbia).

(c) Various Nervous Diseases; arranged for photography by S. P. Goodhart.

Remarks in re The New Medical School, by Dr. Ralph H. Major, Rosedale.

Dinner was served at the Community House by Courtesy of the Riley County Society. The next meeting will be held at Junction City.

BOOKS

Manual of Gynecology by John Osborn Polak, M. Sc., M.D., Professor of Obstetrics and Gynecology, Long Island College Hospital; Professor of Obstetrics in Dartmouth Medical School, etc. Second edition thoroughly revised. Published by Lea & Febiger, Philadelphia. Price, \$4.50.

Though concise this is quite a complete handbook on the subject. The author discusses the physiology of the female genital organs, diagnosis of gynecological diseases, diseases of the vulva, vagina, pelvic floor, genital fistulae, diseases and infections of the uterus, neoplasms and malignant tumors of uterus, uterine tubes, ectopic gestation, diseases of ovaries and tumors, gonorrhoea and sterility, and diseases of bladder, urethra and ureter.

Clinical Laboratory Methods by Russell Landram Haden, M.A., M.D., Associate Professor of Medicine, University of Kansas School of Medicine. Published by C. V. Mosby Co., St. Louis. Price, \$3.75.

This volume contains a series of laboratory methods or procedures that have been carefully tried out and found by the author to give accurate results. Only one method is described where one test alone is a dequate. It should prove a very valuable aid to the physician and the laboratory worker.

Impotency, Sterility and Artificial Impregnation by Frank P. Davis, M.D. Publishd by C. V. Mosby Co., St. Louis. Price, \$2.25.

The author devotes considerable space to a discussion of the theories of the process by which the sexual mechanism is set in motion. The chapter on sterility and its causes and on impotence are ably presented.

Minor Surgery including Bandaging by Henry R. Wharton, M.D., ninth edition thoroughly revised, etc. Published by Lea & Febiger, Philadelphia and London. Price, \$4.00.

The author has included in this edition the simpler methods of blood transfusion, the indications and essentials of debridement, the chlorine antiseptics and the Dakin-Carrel method of treatment of wounds. More attention is given to local anesthesia in minor surgery and some changes have been made in the chapter on surgical bacteriology.

Manual of Diseases of the Nose and Throat by Cornelius G. Coakley, A.M., M.D., Professor of Laryngology and Otology in the College of Physicians and Surgeons, Columbia University, etc.

Ninth edition revised and enlarged. Published by Lea & Febiger, Philadelphia and New York. Price, \$4.25.

The author has added some new material as the slight advance in this field seems to warrant. He finds no definite advantage in the use of vaccine either in the treatment or prophylaxis against acute rhinitis. He still recommends the galvano-cautery in the treatment of hypertrophic rhinitis and the saline douche in atrophic rhinitis.

In justice to himself the author should entirely rewrite this book. There has really been much more progress in this field of medicine than this book would indicate.

The Medical Clinics of North America (Issued Serially, one number every other month). Vol. VI, Number III, November, 1922. By New York Internists. Octavo of 365 pages and 21 illustrations. Per clinic year (July, 1922, to May, 1923). Paper, \$12.00; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

The New York number of Medical Clinics is very interesting. There is first a paper discussing the progressiveness of diabetes by Allen, and also some comments on the treatment of arterial hypertension by the same author. Burger contributes an article on the value of renal functional tests. Pardee presents two cases of heart disease in pregnant women and discusses the management of such cases during pregnancy and labor. Guion reports a case of pernicious anemia with extended history and Ostenberg describes the course of this disease. Both are very instructive. Kantor has an exhaustive article on the treatment of diarrhoeas. Bass considers atropin in the treatment of congenital pyloric stenosis. Boas has a paper on diseases of the aorta and aortic valves. Blumgarten reviews the common pituitary syndromes. One of the most interesting articles is contributed by Fishberg on the tonsils in the tuberculous. There are several other very instructive articles in this number.

The Surgical Clinics of North America (Issued serially, one number every other month). Vol. II, Number VI (St. Louis Number December, 1922) 248 pages with 105 illustrations and complete Index to Volume II. Per clinic year (February, 1922, to December, 1922). Paper, \$12.00 net; Cloth, \$16.00 net. Philadelphia and London: W. B. Saunders Company.

In the St. Louis number of the Surgical Clinics there are case reports by Graham,

Bartlett, Allison, Seelig, Taussig, Sachs, McKay, Coughlin, Bailey, Brooks, Hill and Gelihorn. The cases are widely scattered over the surgical field and many of them of rare or unusual types. Perhaps the clinic by Bartlett on goiter will most appeal to the general reader. Many will be interested in Gelihorn's cases of fibroid enucleation. At any rate, there will be good reading for every one who has access to this number of the Clinics.

The Successful Physician. By Verlin C. Thomas, M.D. Visiting Physician to Franklin Hospital, San Francisco. Octavo of 303 pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$1.00.

The author says of his book: "It is intended as a guide book—showing the way and helping the traveler to keep the right road. It cannot make the blundered efficient; it cannot make the misfit fit. But this book can and will, if read carefully and followed wisely, help to avoid the errors that others have made."

The directions are safe, the suggestions wholesome, and cautions timely. But the often related experiences of the father are rarely appreciated by the son and one may well wonder if the very excellent efforts of the author will receive the appreciation it merits.

Exercise in Education and Medicine. By R. Tait McKenzie, M.D., LL.D., Professor of Physical Education and Physical Therapy and Director of the Department of Physical Education, University of Pennsylvania. Octavo of 601 pages, with 445 illustrations. Philadelphia and London: W. B. Saunders Company, 1922, Cloth, \$5.00 net.

Whether or not the medical profession fully realizes the importance accorded to exercise in our schools and colleges, it is quite essential that the doctor should understand the nature of all such exercises, the effects they have upon development, and the effects that may be expected in the various pathologic conditions of the people under his medical care. This book will amply meet this requirement.

Medical Diagnosis by Charles Lyman Greene, M.D., formerly Professor of Medicine and Chief of the Medical Department, University of Minnesota and Chief of Medical Clinic, University of Minnesota Hospitals. Fifth edition, revised and greatly enlarged, Octavo of 1473; and an increase of 152 pages over the former edition, 637 illustra-

tions, including 14 colored plates; 75 more illustrations than the former edition. Cloth, \$12.00. Published by P. Blakiston's Son & Co., Philadelphia.

Every section has been expanded by important additions. The rise of diseases of the heart and blood-vessels to first place on the list of causes of premature death makes necessary a better understanding of the possibilities of their early recognition, prevention, and retardation. The means of early and accurate diagnosis now available to the physicians are further emphasized.

The sections dealing with polygraphic and electrocardiographic technic and interpretation has been extended. Among the additions to the text is the discussion of "influenza" and the radiograms of Dr. Hunter Selby, illustrating the development and course of that "hemorrhagic pneumonitis." A "Symptom Index" has been incorporated in this Edition.

Nutrition of Mother and Child by G. Ulusees Moore, M.D., M. Sc., Instructor in Diseases of Children, University of Oregon Medical School, including Menus and Recipes, by Myrtle Josephine Ferguson, B.S., Professor of Nutrition, Iowa State College, Ames, Iowa. Published by J. B. Lippincott Co. Price, \$2.00.

This volume presents the facts of nutrition which have been accepted by schools of accredited standing everywhere. The book lays particular emphasis on the newer conception of breast feeding, the building up of breast milk, vitamins and the mineral content of the diet. The volume is written in simple straight-forward English and as untechnical as is feasible in the presentation of scientific facts.

Text-book of Pediatrics edited by Prof. E. Feer, Director of the University Children's Clinic, Zurich. Translated by Julius Parker Sedgwick, M.D., Prof. of Pediatrics, University of Minnesota Medical School; and Carl Ahrendt Scherer, M.D. Published by J. B. Lippincott Company, Philadelphia.

The American collaborators who have added largely to the original text are, Brenne-man, Byfield, Calhoun, DeBuys, Dietrich, Fleishner, Hers, Hoffman, Hoobler, Irvine, Jeans, Meyer, Ott, Pierce, Scammon. One hundred pages are given to a discussion of diseases of the digestive system and forty-two pages to diseases of the respiratory organs and one hundred fourteen pages to diseases of the nervous system. The work is very well illustrated.

Generalized Pain, Part II of Clinical Symptomatology of Internal Diseases by Prof. Dr. Norbert Ortner, Vienna, translated by Francis J. Reiman. Medical Art Agency, New York.

This is a general discussion of the features and symptoms of painful internal diseases. The subject is quite thoroughly covered in this book of six hundred pages. The author states that a dull pain in the heart will often constitute the most prominent if not the only symptom of chronic tobacco heart. When one has read this book he realizes what a great variety of pains the human body is subject to and the almost innumerable causes of pain.

The Practice of Preventive Medicine, an Introduction to, by J. G. Fitzgerald, M.D., Prof. of Hygiene and Preventive Medicine and Director Connaught Antitoxin Laboratories, University of Toronto, assisted by Peter Gillespie and H. M. Lancaster. Published by C. V. Mosby Co., St. Louis. Price \$7.50.

Naturally a good deal of the subject matter of this book concerns public health activities, health officers and health organizations, but those subjects with which the general practitioner is practically concerned are by no means slighted. The modes of transmission of disease and the best means for control are described in detail.

Regional Anesthesia, by Gaston Labat, M.D. Lecturer on Regional Anesthesia at the New York University; Laureate of the Faculty of Sciences, University of Montpellier; Laureate of the Faculty of Medicine, University of Paris; Formerly Special Lecturer on Regional Anesthesia; The Mayo Foundation, University of Minnesota. With a foreword by William J. Mayo, M.D. Octavo of 496 pages with 315 original illustrations. Philadelphia and London: W. B. Saunders Company, 1922. Cloth, \$7.00 net.

The author suggests that experience is necessary for success in regional anesthesia, but this may be acquired rapidly by practice provided one knows what to do and how to do it. This he endeavors to teach by careful, detailed description and excellent illustrations of each method to be used, and for each region to be anesthetized.

Pulmonary Tuberculosis by Maurice Fishberg, M.D., Clinical Professor of Medicine, University and Bellevue Hospital Medical College; Chief of the Tuberculosis Service, Montefiore Hospital for Chronic Diseases and Bedford Hill Sanatorium for Incipient Tuberculosis. Published by Lea and Febiger, Philadelphia and New York.

The author discusses first the tubercle bacilli, then the problems of infection, its epidemiology, pathogenesis, pathology and

morbidity, its symptomatology, diagnosis and methods of examination, clinical forms and complications, prognosis, indications for and methods of treatment. Excellent illustrations are inserted where they may add to the value of the text.

—R—

The San Francisco Convention Session of The American Medical Association as a Starting Point for Various Tours.

The California Convention Headquarters of the American Medical Association, working with the various tourist agencies, civic and commercial organizations, are arranging plans whereby the San Francisco Convention will be the starting point for a number of tours:

One of these will be a three weeks' trip to Honolulu, on a special boat touching at all of the principal ports, including the Leper Colony, and returning to San Francisco.

Another trip under contemplation is up the West Coast of the United States to Alaska and return, allowing returning passengers to leave the boat at Vancouver and travel over the Canadian Pacific East, or at Seattle over the Great Northern Railroad; at Portland and thence East by a number of lines or to San Francisco and Los Angeles or San Diego and back East by any of the numerous lines; or connecting at San Francisco with boats that will return East through the Panama Canal.

Arrangements are also being planned by which persons may begin an entire Oriental tour, starting from the Convention a day or so after its close. These trips will include Japan, China, the Philippine Islands and return to San Francisco, or one may go on through the Suez Canal and Europe.

In fact, any and all sorts of combinations of tours to take up as much vacation as one cares to use and to any part of the world will be one of the features easily arranged in connection with the Convention.

Persons interested in any of these points or in any other matters connected with their trip to California are requested to write W. E. Musgrave, Chairman of the Local Committee of Arrangements, 806-809 Balboa Building, San Francisco.

"Stomach Trouble" in Syphilis.

Stokes and Brown (Am. Jr. Med. Soc. Dec.) analyzed two hundred syphilitic patients whose chief complaint was "stomach trouble."

The summary of the 200 syphilitic patients who complained of stomach trouble showed that 70 per cent had neurosyphilis, 20 patients (10 per cent) had organic lesions (syphilitic or non-syphilitic) of the gastro-intestinal tract, 9 (5 per cent) had lesions of the heart, and only 4 per cent had true syphilis of the stomach. Sixty per cent of the men and 70 per cent of the women could not give histories of secondaries. In only 36 per cent of the whole series of patients was syphilis recognized before they came to the clinic. The medical diagnosis before their examination in the clinic were apparently largely based on history (90 per cent) and blood Wassermann reaction (65 per cent). After examination in the clinic the diagnoses were based on history (60 per cent), spinal fluid examination (59 per cent), and blood Wassermann reaction (44 per cent). Only 10 per cent of the patients had had spinal fluid examinations before coming to the clinic, yet 59 per cent were positive. The examination of the spinal fluid deserves greater popularity. Only 44 per cent of the patients gave a positive Wassermann reaction when they entered the clinic and 56 per cent gave negative reactions largely as a result of treatment elsewhere. Negative blood Wassermann and negative spinal fluid do not exclude neurosyphilis as a cause of gastric complaints. Eighteen per cent of our patients with stomach trouble had had needless operations, 80 per cent before entering the clinic. In all but 2 of 35 patients there were clues to the underlying syphilis which were not followed up, or a negative blood Wassermann reaction that had been accepted as final, when other evidences of syphilis could have been found. A general raising of the "index of suspicion" for syphilis among internists and surgeons would reduce operative mistakes on patients with abdominal symptoms. A blood Wassermann is often insufficient to clarify the situation, but should at least be routine. Positive Wassermann reactions before operation should not

be ignored. In the 109 cases which remained for treatment 70 per cent improve, 43 per cent were relieved of their complaint. Different methods of treatment will be required for underlying syphilis of the nervous system, the stomach, or the heart. The spinal fluid examination stands out as a procedure of the highest importance, outranking the serum Wassermann reaction in diagnostic syphilology as applied to internal medicine. A plea is made for its wider use for diagnosis and for proper facilities for its performance and control.

—————B—————

The Blood Pressure of Healthy Men and Women.

This study, reported by Brandreth Symonds, New York (Journal A. M. A., Jan. 27, 1923), is based on the record of risks accepted at standard rates by the Mutual Life Insurance Company of New York for the years 1907 to 1919, inclusive. In connection with the use of a numerical rating, as is the practice of the New York Life Insurance Company, which charges an excess premium for a systolic pressure of 140 mm. in the ages below 40, a question arises whether any systolic pressure above 140 mm. should not be suspected of pathologic possibilities. The mortality ratios do not definitely prove this, but, for pressures above 145 mm., they indicate it strongly. Pressures below 100 mm. are rare in life insurance. They will usually be found in the very young and thin, and life insurance has shown that the applicant presenting the combination of youth, thinness and a pressure below 100 is prone to tuberculosis. To some extent this holds true also for those having a pressure below 110. Among those who are not young, these low pressures do not seem to be associated with increased mortality. In fact, the mortality ratios indicate that low pressure after the age of 45 is desirable. This is of great interest, for the average systolic pressure begins to increase decidedly at that age. It would seem that the average pressure runs counter to the best interests of health. In that respect, it resembles weight; for the average weight increases with age, while the lowest mortality after the age of 45 is found among those who are 15

per cent lighter than the average weight. The systolic pressures of healthy women are a little lower than man's up to the age of 40, partly for the reason that women weigh less up to this age. After that, they are a little higher than man's, and they behave like man's with reference to pressures over 140 mm. The diastolic pressures of healthy men increase with weight and age in about the same proportion as the systolic pressure. It is possible that a diastolic pressure above 94 mm. is in the danger zone. The diastolic pressures of healthy women are a trifle lower than man's up to the age of 40, and a trifle higher after the age of 50. —R—

Differential Diagnosis of Diseases of the Mediastinum.

To promote greater assurance in the differential diagnosis of the different infections of mediastinal disease, an accurate knowledge of the anatomy of the mediastinum and of the physiology of its structures, John Phillips, Cleveland (*Journal A. M. A.*, May 6, 1922), says, is of primary importance. For the establishment of the diagnosis, the resources of the clinical and roentgenologic laboratories should be called into service, their findings added to those of a painstaking physical examination and searching anamnesis. It is only by relating the general characteristics of the various types of diseases which may invade the mediastinum to all the clinical findings in the individual case that an accurate diagnosis may be established. Most of the clinical phenomena associated with pathologic conditions in the mediastinum result from pressure on some one or more of the important structures contained in it. It is therefore an important aid to diagnosis to be able to relate the symptoms in an individual case to the structures which are primarily involved. The importance of a careful and searching inquiry into the history of a patient in whom disease of the mediastinum is suspected cannot be overestimated. The physical examination should be complete, and should include a neurologic examination. A rectal examination should never be omitted. If any doubt regarding the diagnosis remains after a careful physical examination of the chest, either a fluoroscopic examination or

roentgenograms of the chest should always be made. Excluding aneurysm, tumors of the mediastinum form the most interesting and the most important group of diseases of this region. These may be primary or secondary, malignant or benign. Almost every type of tumor may be found in the mediastinum. Simple mediastinitis, in which there is a low grade of inflammation of the mediastinal tissues without suppuration, sometimes occurs. Suppurative mediastinitis is always a serious disease. It is most commonly associated with tuberculous disease of the lymphatic glands. Tuberculosis may involve any of the groups of the mediastinal glands, but the tracheal and bronchial glands are most frequently affected. Mediastinal emphysema may occasionally result from inflammatory conditions in the mediastinum, the air gaining access into the mediastinum from a perforation of the trachea or bronchus, or making its way from the neck beneath the deep cervical fascia.

—R—

The Disappointments of Hexamethylenamin

Hexamethylenamin has joined the large and growing group of drugs of which much has been expected but which have failed to justify the hopes of their champions. The use to which hexamethylenamin is still devoted with apparent scientific justification is in preventing the growth of microorganisms in the urinary tract and in destroying them when they are present in the urine in infectious diseases, such as typhoid fever. The drug is recommended as an antiseptic in cystitis and as a prophylactic prior to operations on the urinary tract.

Its possible efficacy, however, depends on the elimination through the kidneys with a urine that remains distinctly acid in reaction; otherwise, no benefit is to be expected. Hexamethylenamin has no material antiseptic value as an antiseptic in the cerebrospinal fluid during spinal meningitis. It is not a uric acid solvent. Finally, the drug has been shown to have no diuretic potency. Furthermore, hexamethylenamin is said to be liable to produce renal irritation when the dosage is large or the use protracted. (*Jour. A. M. A.*, Jan. 6.)

Madura Foot, More Properly Called Mycetoma.

One of the two cases reported by Gustav A. Pagenstecher, San Antonio, Texas (*Journal A. M. A.*, May 6, 1922), is a very early form of mycetoma, involving a foot which shows early bone changes, with a later and more pronounced soft tissue involvement. The second case was a much further advanced form of mycetoma, the involvement being confined not only to the foot but also to the ankle and the distal portion of the tibia and fibula. The two cases are characteristic of typical Madura foot, or mycetoma. The history of the injury is clear in each instance both patients being laborers and forced to make their living by manual means, closely associated with the soil, going barefooted a great deal while at work. Both cases showed the pathognomonic granules insoluble in acetic acid, containing central clumps of closely matted mycelial threads. Jutting from the periphery of the granules were branched segmented mycelial threads containing what could be easily interpreted as a nucleus. This fact clearly demonstrates that the mycelial bodies are vegetative in character.

—————R—————

Problems Concerning Infections of Cervix, Body of Uterus and Fallopian Tubes.

Inasmuch as it has definitely been shown that the body of the uterus seldom harbors bacteria for a long period of time, Arthur H. Curtis, Chicago (*Journal A. M. A.*, Jan. 20, 1923), states emphatically that discontinuance of uterine curettage in attempts to relieve chronic infection marks a decided advance in methods. In most instances, leukorrhea arises from the cervix and from glandular tissues in the vicinity of the urethra. Treatment directed to eradication of these diseased areas yields very satisfactory results. Gonorrheal infection of the fallopian tubes is naturally a quickly self-limited disease. So-called chronic gonorrheal salpingitis is usually a recurrence from an external source or repeated invasion from the chronically infected lower genital tract. Streptococcus infection of the tubes occurs

usually as a complication of abortion or intra-uterine manipulation, and is commonly only a part of more wide-spread pelvic infection. Streptococci, in contrast with gonococci, may remain viable in the tubes for many months or even for years. Even the most prolonged and most severe gonorrheal disease of the tubes is characterized by adhesions amenable to blunt dissection. Adhesions which require cutting or tearing speak for streptococcus or tuberculous infection. In any given case, if there is question whether it is advisable to remove the ovaries at the time of operation, more radical measures are indicated in streptococcus or tuberculous infection than in gonococcal disease of equal severity, because viable bacteria probably remain buried in the tissues, and there is likelihood of postoperative chronic ovarian infection.

—————R—————

Lung Volumes in Certain Heart Lesions.

The ordinary sequence of events in heart patients with lung involvement, according to the findings of Christian Lundsgaard, New York (*Journal A. M. A.*, Jan. 20, 1923), and his interpretations, is as follows; In the very first stage of a (mitral) lesion in which the main clinical symptoms are the accentuated pulmonic second, the concentric hypertrophy of the heart and the murmurs, the only abnormality found may be an increased residual air. In the course of time when the stasis lasts long enough, the total volume begins to decrease, owing to the increasing influence of the previously mentioned factors. The residual air may, however, still be increased. At last a period of broken compensation occurs, with further decrease in the total capacity. In this period, however, the residual air is diminished, often to a considerable degree. From this it appears natural that the vital capacity in heart patients cannot in the course of effective treatment increase to its normal value. Even if the total capacity becomes normal, the residual air remains increased on account of the increased pressure in the pulmonic circulation necessary for the establishment of compensation. The vital capacity, therefore, must remain somewhat diminished.

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The Glucose Tolerance Test in Diabetes

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Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

Case 1. Lida F., aged 46, had been feeling perfectly well, had a very good appetite, slept well every night and had not a pain nor an ache in her body and weighed more than she ever did in life, (180 lbs.). She applied for life insurance and was immensely surprised when she was rejected. Sugar was found in her urine.

Case. 2. Fred B., aged 43, 5ft. 5 in., weight 140 lbs., who had been obliged to perform very strenuous labors in Europe during the war and on his return home was under great mental strain with his business, complained to his physician of pollakiuria with enuresis, some general weakness and sleeplessness. Examination showed him to be diabetic.

Here are two cases of diabetes mellitus; the one detected by accident and the other by intention. I present them to you as an illustration of the extremes of action and nonaction in the field of medicine.

Case 1 is by no means an isolated instance. Every physician has known of cases which were discovered in this way. It is not overly strange that it was not discovered before. She had been feeling perfectly well. She had had a good appetite. She had not had a pain nor an ache and weighed more than ever in her life. There is only one thing in her case which would lead her physician to suspect that she might be diabetic, had she consulted him, and of this she was unaware.

Case 2 is not openly nor strongly suggestive of diabetes. Most men after sever labors performed under unusual conditions followed by intense business strain suffer with more or less weakness. If their business gives them many worries it would be quite natural that their rest at night would be more or less disturbed by sleeplessness, and with wakefulness more or less pollakiuria is likely to oc-

cur. The enuresis might be the result of sphincteric inaction due to the physical and nervous exhaustion.

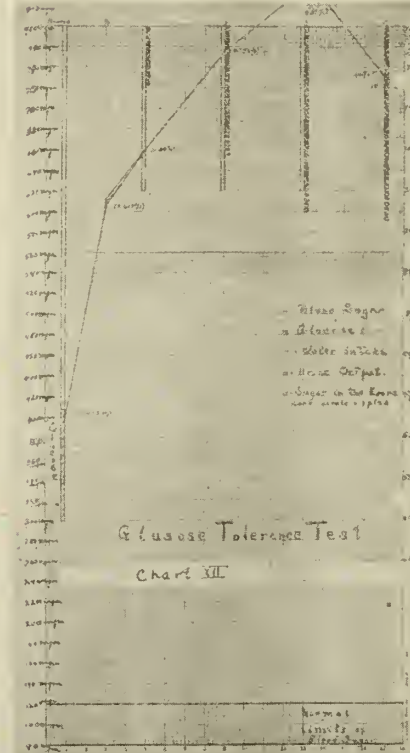
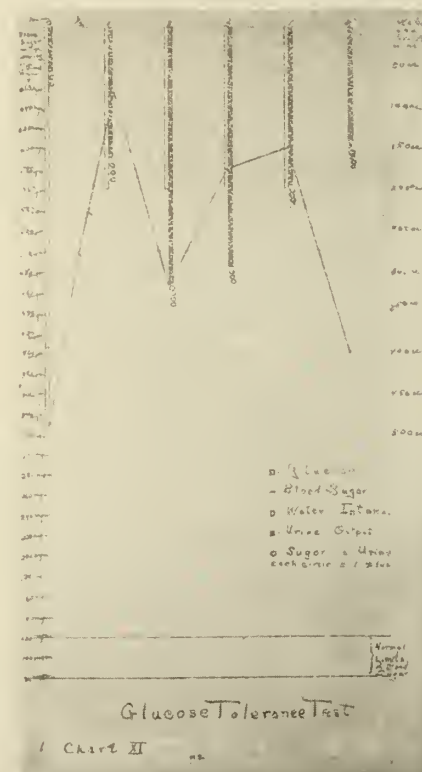
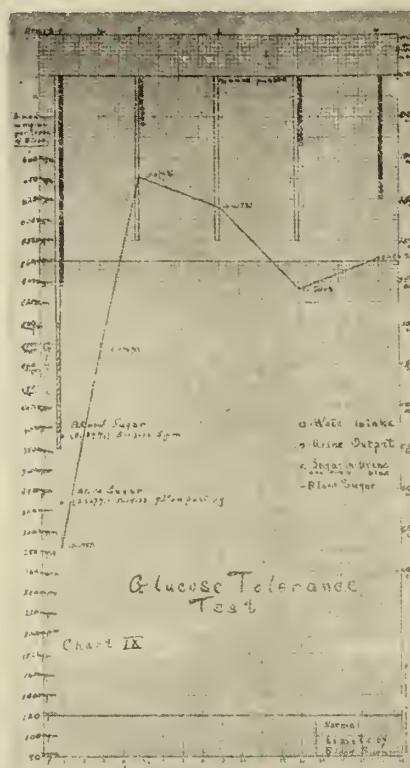
Diabetes does not come on in a day. The change from the normal to the abnormal is gradual in most cases. Some symptoms of disease would gradually become manifest and, as in case 1, need not be attended by anything unpleasant or unnatural except a disproportion between age, height and weight.

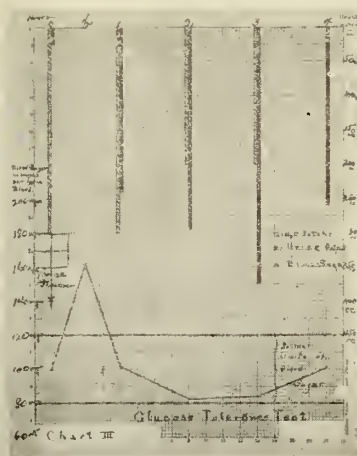
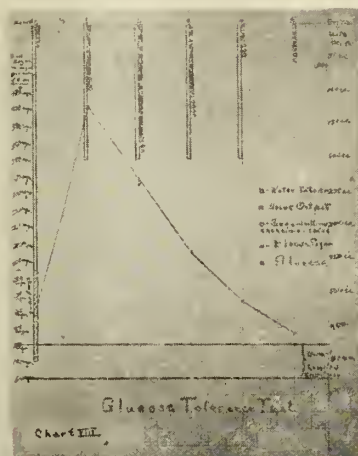
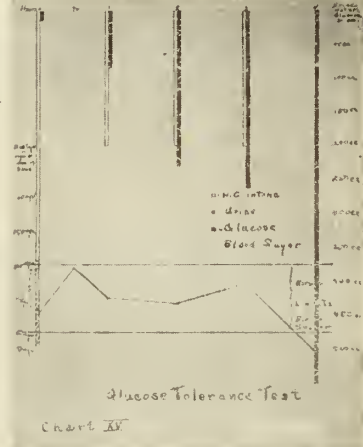
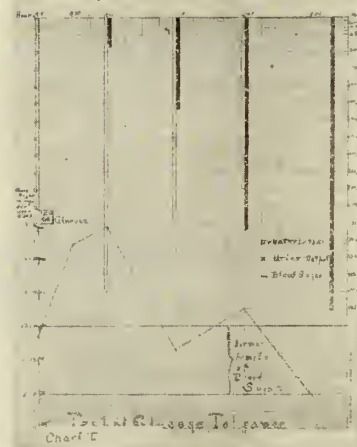
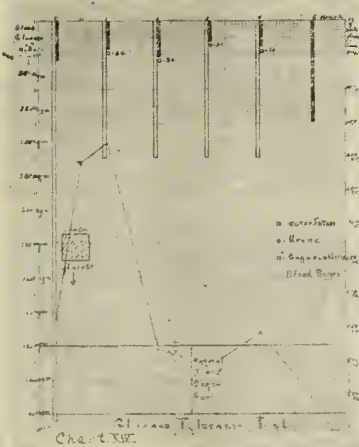
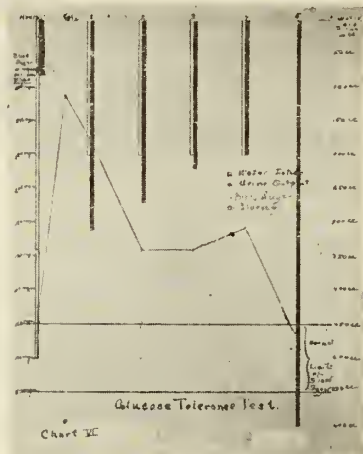
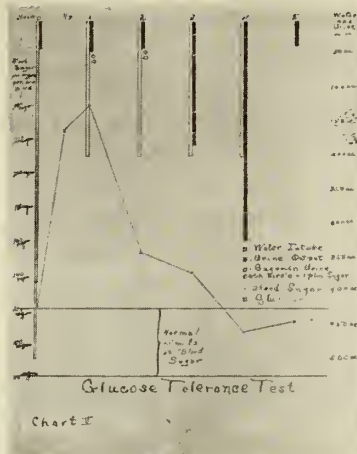
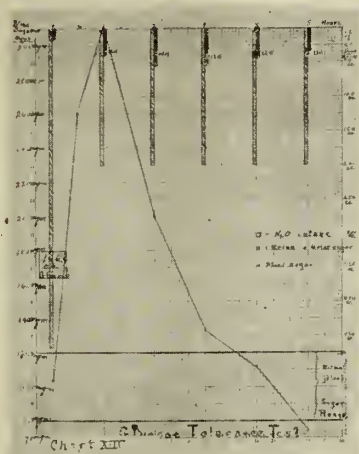
In case 2 the enuresis with the pollakiuria was sufficient stimulus to make the patient seek his physician's aid. The exhibition of atropin might have been sufficient to relieve this unpleasantness, and the case would then have been allowed to develop into a severe grade of diabetes mellitus. But a careful examination before prescribing revealed the true nature of the existing disorder. Curative treatment was then possible.

The moral of these cases is the one repeatedly urged in modern scientific medicine concerning a thorough study of each individual patient. It is the patient we are treating and not the disease. We must know the patient from his ancestry down through his past history and his present complaint to every detail of his physical frame if we are to claim our work to be scientific. Routine examination in every case will reveal to us many unsuspected cases of diabetes mellitus.

INDICATIONS AND SUSPICIONS

"Diabetes is largely a penalty of obesity and the greater the obesity the more likely is nature to enforce it. The sooner this is realized by physicians and the laity the sooner will the advancing frequency of diabetes be checked." Standard weight tables for age, height and sex have become common knowledge. Every layman should be informed that to vary from that is to invite disease and debility. Variation from that standard should be the first cause for suspicion that the patient we are examining is diabetic.





Of conjugal diabetes Joslin says, "The implication is strong that they contract the disease from exposure to good food rather than to one another." He also explains the frequency of diabetes in the Jewish race as due to over-feeding which begins in infancy and lasts to old age.

Diabetes is frequent among the richer classes of society, because they are as a rule above the standard weight for the same age, height and sex. They have not the time to exercise for pleasure and benefit of the body. They must look after their business. Mental workers for the same reason are more likely to be diabetic.

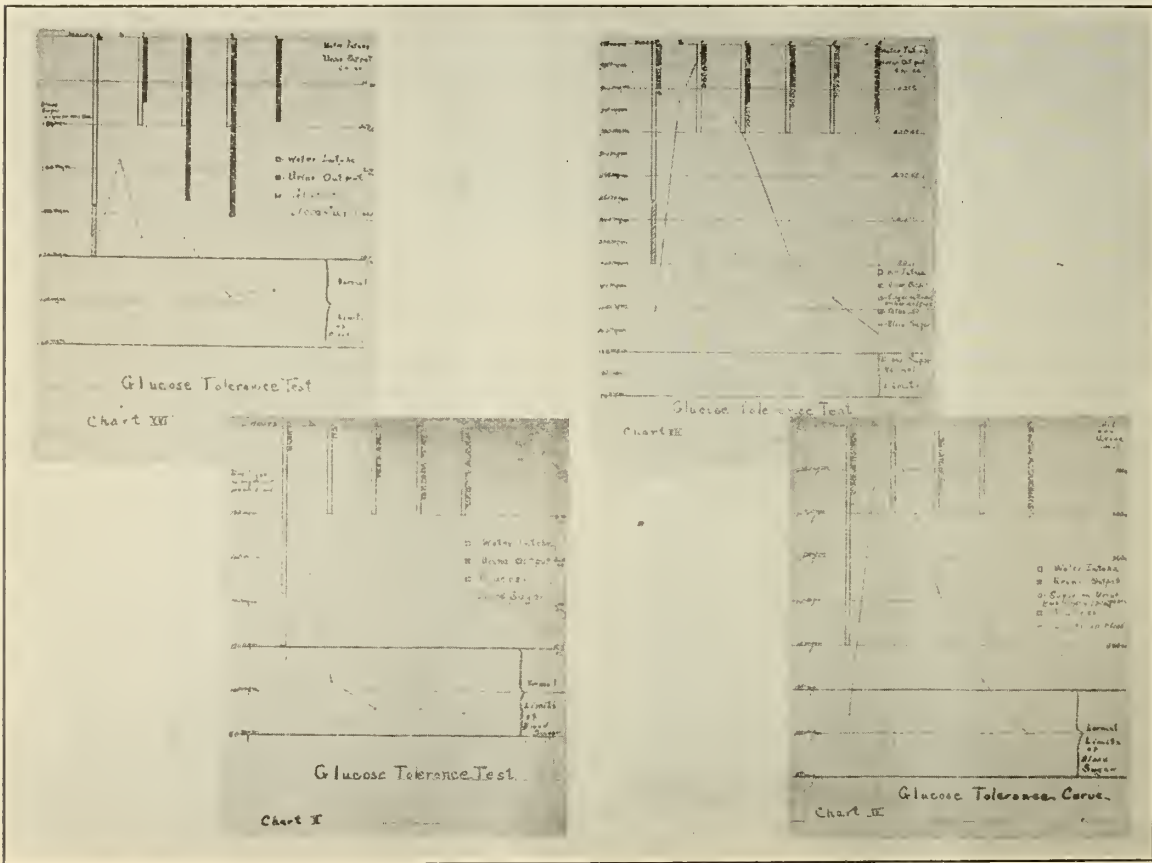
"The real headway against the ravages of disease begins with its prevention rather than its treatment. Prevention implies a knowledge of the predisposing agency. Overweight is a predisposition to diabetes. The individual with overweight is at least twice, and at some ages, forty times, as liable to the disease. For the prevention of more than half of the cases

of diabetes in this country, *no radical under-nutrition* is necessary: the individual is simply asked to maintain the weight of his average fellow man."

In addition to obesity and the associated conditions under which overweight is frequently found, there are other symptoms which must lead us to be on the outlook for diabetes mellitus. To keep this effort within the appropriate limits they can be simply mentioned. A patient presenting himself with any one of the following symptoms or conditions should be thoroly studied—*polydipsia, pollakiuria, weakness, loss of weight, arterio-sclerosis, hyperthyroidosis, nephritis, pregnancy, diabetes and goitre in ancestry*, and those cases in which even a doubtful trace of reduction takes place in his urine.

SPECIFIC TESTS

It is especially to the *early detection* of diabetes by means of the glucose tolerance tests that I want to invite your attention. It is now well known that diabetes can not al-



ways be detected by an examination of the urine alone. Glycosuria may be present in the absence of diabetes, and on the other hand diabetes may be present without glycosuria. This will be seen from the charts. The estimation of the amount of sugar in the blood is now known to be the only accurate test for the presence of diabetes mellitus. The normal amount of blood sugar varies between .08 and .12 per cent in the fasting state. Let us take blood and urine from each of a large group of people in a fasting state, who are in apparently normal health. Now let us give to each of these persons 1.75 gm of glucose per kilogram of body weight (or a large meal composed chiefly of starchy foods and sweet stuffs such as a meal of one-half grape fruit with sugar, a bowl of oatmeal with cream and sugar, and a liberal helping of waffles or buckwheat cakes with butter and syrup and two cups of coffee with cream and sugar—such a breakfast as is not infrequently eaten by the well-to-do office man many winter and spring mornings before going to the office in his Buick coupe). Now let us make a urinary and blood sugar estimate of each of these persons every hour thereafter for four or five hours. Having made these estimations of sugar in both the urine and the blood let us make graphs or curves of these findings. What will we find?

Comparing them carefully and interpreting them we find that they may be arranged into the following classes. Classes A, B, C and D, or

A. The Subnormal: The lowest type, where on account of very slow absorption or perhaps extremely rapid oxidation and storage there is no rise in the blood sugar curve. See chart XV.

B. The Normal Class: In this there is a slight rise above the normal percentage and an equally rapid decline to normal limits, the blood sugar has been burned up or stored within or near the first hour. See charts I, II, III and XVI.

C. The Abnormal Class: This embraces those curves where there is some delay both in reaching the maximum elevation and a noticeable retardation for the curve to come within normal limits, but which is ultimately

accomplished. See charts IV, V, XIII and XIV.

D. The Pathologic Class: In which the lagging, both of the ascent as well as of the descent, is quite apparent and the curve does not reach normal limits at all or only approximates it after many hours. See charts VI, VII, VIII, IX, X, XI and XII.

In classes A and B the large amounts of carbohydrates consumed have caused no disturbance—in fact they could burn up or store even greater amounts, could even resist almost any sort of feeding abuse. The fourth curve is of course the pronounced diabetic.

But it is to the third (C) that we wish to pay special attention. This curve shows that the sugar remains in the blood for a somewhat longer period before it is stored or burned. This slowing up of the oxidation is due to the approach of a deficiency of the enzyme necessary for the process. The pancreas function is nearing the point of exhaustion. It can not elaborate enough of the glycolytic ferment to promptly take care of the large amount of glucose. When the pancreas function ceases altogether the carbohydrates are not metabolized and diabetes mellitus is the result. This is the situation in the fourth (D) class of curves. The third (C) class is approaching this class. Every case of diabetes has passed through the class (C) state, from the well to the sick, either because of a functional overstrain of the pancreas, or because of an infection which has weakened the function of the pancreas. The individuals of the third (C) class are predisposed to diabetes especially if they eat liberally of carbohydrate foods. They will be diabetics if they persist in that kind of diet. If, however, this fact be discovered and a radical change be instituted they may be saved before they have crossed over into the diabetic class.

It is well known that most diabetic patients come too late for treatment. If we would really do something worth while for these unfortunate persons who lack in the utilization of carbohydrates, we must get them before they have gone into the diabetic class. We must detect them by design and not by accident. Every person who is above weight for his sex, height and age, or who

complains of polydipsia, or pollakiuria, polyuria, or weakness, or loss of weight, or has arteriosclerosis, or hyperthyreosis, or nephritis, or diabetes in ancestry, or whose urine shows even a doubtful or very faint reaction to sugar by the Benedict re-agent ought to have the glucose tolerance test applied to him.

TECHNIQUE

The patient is given the following test in our laboratory—

No breakfast.

Collect urine and blood.

Give 1.75 gm per kg of body wt. of glucose with lemon juice and water, 300-400 cc total.

After one half hour take blood. Give water 200-300 cc.

After another hour take blood and urine. Give water 200-300 cc.

After two, three, four, five hours take blood and urine. Give water 200-300 cc.

Test blood by Folin and Wu blood sugar quantitative test.

Test urine by Benedict's test, quantitatively.

Then make a graph of the findings.

SUMMARY

1. Every diabetic has passed through various stages from normal to pathologic conditions.

2. The glucose tolerance test, easy of application, scientifically classifies the patient into subnormal, normal, abnormal or pathologic class.

3. The real headway against the ravages of diabetes begins with its prevention. We must detect diabetes by design and not by accident.

—R—

Goiter

DR. J. T. AXTELL, Newton, Kansas.

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

The thyroid is one of the ductless glands. If it is not the most essential to life, it has been said to be one of the most essential to make life worth living. The circulation in the thyroid gland is greater than that of any other gland in the body. All the blood in the entire body passes through the thyroid gland once in every sixty minutes. Its prominent position makes it the most easily studied

of any of the ductless glands. Recent studies have thrown much light on the functions and the diseases of this gland and will, no doubt, help materially in solving our problems in the other ductless glands.

The etiology of goiter as well as of cancer has so far not been established. It appears in practically all countries but is much more common in certain localities. It is very much more common in females than in males. It is stimulated by pregnancy and my menstruation, and is also said to be increased by overfeeding and to be reduced by starvation.

In December, 1914, Kendall discovered its secretion and proved that it was a crystalline, chemical substance called *thyroxin*, containing sixty-five per cent of iodine. Thyroxin has also been produced synthetically. This thyroid secretion makes available the energy of the cells of the body.

In the past much confusion has existed as to the different kinds of goiters, or rather there was little attempt at any classification. Plummer's classification seems much the simplest. He classifies them into colloid, adenomatous and exophthalmic goiters. There may also be some combinations and variations, that is, colloid and adenomatous tissue may be combined in the same goiter, making a colloid adenoma.

The ordinary colloid goiter is the goiter of youth. It usually appears at from 15 to 25 years of age and is never seen in persons more from 30 or 35 years old. It consists of a symmetrical enlargement of both lobes and of the isthmus. It is soft and granular to the feel. Many of the so-called adolescent goiters are of this type. It disappears under treatment, and except in rare instances where it causes pronounced symptoms, is not a surgical disease or condition. It is best treated by iodine or thyroxin or some of the thyroid products, but iodine treatment alone has been found slow after the goiter is developed. By giving both iodine and thyroxin together the gland is relieved of its burden to functionate and is rapidly reduced. Iodine has little curative effect after twenty-five years of age, and care should be taken in giving iodine to patients with goiter, who are over forty years of age, as a degenerative process or a hyper-

thyroidism may be induced. The colloid may be combined with an adenoma and the adenoma may continue after the colloid material in the goiter has disappeared.

The adenomatous form of goiter is the most common kind. It is usually first noticed at from fifteen to twenty years of age but usually at this stage has no symptoms. The average time is sixteen years later before the symptoms appear. Almost one-fourth of the adenomatous goiters will cause hyperthyroidism at about the age of 30 to 45 years, but the symptoms develop slowly and it is usually several years before patients present themselves to a surgeon for operation. These goiters may attain an immense size. To the touch they are more irregular in type, often having one or more rounded tumors, more or less dense and hard, which may be felt by the examiner. It is not considered best to operate on an adenomatous goiter before thirty years of age unless it is giving some particular trouble. If removed before this age, there is some tendency for them to return. This form of goiter in its later stages is prone to affect the vasculo-cardiac system, causing myocardial disintegration and making operative procedures more dangerous. The blood pressure is higher in adenomatous goiters, with hyperthyroidism, than it is in exophthalmic goiter, or than it is in adenomatous goiter without hyperthyroidism. Exophthalmus, or protrusion of the eyes, seldom or never develops in the adenomatous form of goiter.

The symptoms of hyperthyroidism are increased metabolic rate, nervousness, tremor, tachycardia, loss of strength and weight, with a tendency to high blood pressure, and in the later stages to myocardial disintegration.

The exophthalmic goiter is the goiter of hyperplasia of the gland. It is usually symmetrically developed and quite hard. The exophthalmic goiter usually makes its appearance at about thirty-six years of age, and, unlike the adenomatous variety, the symptoms are not slow in appearing but come on rather suddenly, generally within six to twelve months, and are usually quite severe. The symptoms of hyperthyroidism come in waves or exacerbations lasting from a few

weeks to a few months. The nervous system is profoundly affected. We always find hyperplasia and hypertrophy of the thyroid gland, which are never present without an excess of secretion of the gland.

The time of operation of an exophthalmic goiter is very important. The patient is in the best condition when recovering from one of the waves or exacerbations and not in the beginning nor at the height of a wave. Rest in bed and nerve quieting medicine is the best treatment until the patient is much improved.

The ligation of one or more arteries of each lobe, under local anesthesia, has reduced the mortality in these cases more than any other one treatment. It also tests the patient's ability to stand the more serious operation of removal of the goiter. Slight as the operation of ligation really is, there is a certain reaction which comes on a few days after operation, similar to the reaction after removal of the gland. Then the patient begins to improve rapidly and this improvement will last for several months. Unless it is thoroughly explained in the beginning, the patient is much inclined to believe that she is well and may not submit to the radical operation. This, however, should be done in all cases after from two to four months as a return of the hyperthyroidism is almost sure to follow unless the glands are removed.

The basal metabolic rate of an individual is the measurement of his heat production under standard conditions. It shows the rate at which the life process of combustion is proceeding. The work that has been done in the last few years in determining the basal metabolic rate in goiter cases has done much to put the whole subject on a scientific basis. Taking the basal metabolic rate is called calorimetry, and it gives the best evidence of the severity of the disease and the effect of treatment. It, however, is not an indication of the time to operate.

We find three metabolic rates, the normal, the increased and the decreased rates. Ninety-five per cent of the cases in practice which show an increase in the basal metabolic rate are goiters. The hyper-function of the thyroid gland increases the metabolic rate while

the hypo-function of the gland lowers the rate. Hyper-function is found in all cases of hyperthyroidism and in all febrile conditions. The metabolic rate is increased in all cases of exophthalmic goiter and in hyperthyroidism of the earlier adenoma as well as in all febrile conditions, and in determining the metabolic rate in goiter, the febrile condition must first be eliminated by taking the temperature a number of times. A decrease in metabolic rate is found in myxedema and hypopituitarism. Neuroses simulating hyperthyroidism may be ruled out by an examination of the basal metabolic rate, as it is never increased in a pure neurosis. The metabolic rate is normal in a normal individual and in all neuroses simulating hyperthyroidism. For practical purposes any increase in the metabolic rate with a normal temperature is either hyperthyroidism in an exophthalmic goiter or in a thyroid adenoma.

At the Mayo Clinic the blood picture, or the lymphocyte changes in the blood, has not been found reliable while the metabolic rate is more and more used in diagnosis. The metabolic rate is not to tell when the operation is safe, although it does tell the thyroid activity. Generally, however, the mortality is increased in a high metabolic rate and a high rate may suggest taking great care in preparing a patient for operation, by rest or by rest and ligation. A metabolic rate persistently above plus ten would indicate hyperthyroidism.

A certain per cent of goiters have been found to be tubercular and a small per cent are malignant. Cancerous goiters are hard and nodular but smooth and even to the feel. They grow rapidly and are very much inclined to a metastasis of other glands.

For reasons which no one has been able to give, some goiters disappear without any treatment whatsoever. Medical treatment, as we have seen, is best in the colloid goiter and in the early stages of the adenomatous goiter. Surgical treatment has given the highest per cent of cures in the exophthalmic goiters as well as in the hyperthyroidism of the adenomatous form.

The place of radium in goiter treatment is not yet firmly established but that it will

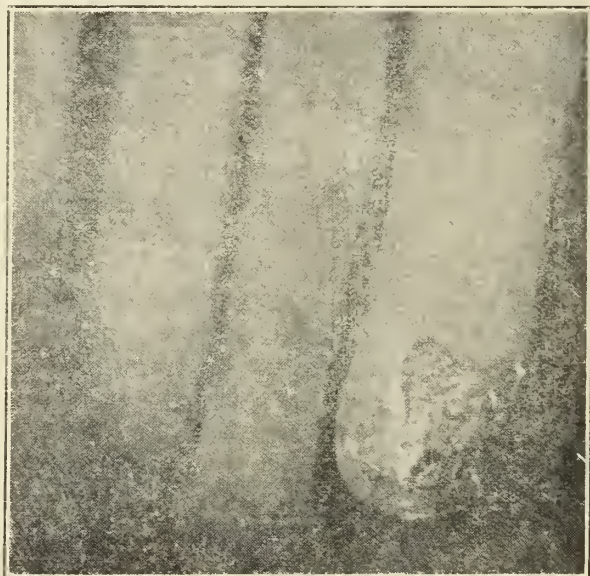
reduce the adenomatous form of goiter in early years and before hyperthyroidism has developed, is sure. It certainly also reduces the nervousness and other symptoms of hyperthyroidism. Our own experience with radium, lasting over a period of nearly three years, is very favorable, but is used only when for some reason surgical measures can not be carried out.

—R—

Extra-Genital Chancres

HOMER G. COLLINS, M.D., Topeka

Dr. X, age 29, presented himself for examination January 13, 1923. About five weeks previous he noticed a papular lesion near the tip of the left index finger. This lesion was painted with tincture of iodine, and this was followed by many local applications such as carbolic acid solution, iodoform, and so forth. None of the local applications seemed to have any effect. The lesion became larger and presented an ulcerated surface. He claims not to have suspected anything until possibly a week before his appearance for examination, for he continued his professional duties until a positive diagnosis was made.



Examination revealed an indurated, ulcerating lesion near the tip of the palmar surface of the left index finger. The finger was somewhat bulbous in appearance on account of the swelling. The skin showed peel-

ing some distance from the edge of the ulcer, possibly due to the irritating local applications. The epithochlear glands were about the size of hazel-nuts and the axillary glands about the size of small English walnuts. They showed some tenderness on pressure. The whole clinical picture was that of a Hunterian chancre, with the accompanying adenopathy.

Knowing the lesion had been present from four to five weeks, a dark field examination was not attempted as it was thought a positive blood could be secured. This proved correct and the examination of the blood was strongly positive in both cholesterinized and plain antigen. A small amount of specific treatment caused the lesion to disappear.

Although the amount of treatment necessary to effect a cure was carefully explained, the patient has failed to return for further medication after the third injection of arsenphenamin.

According to Bulkley¹, in his treatise on extra genital chancres, in presenting the cases, the fingers and hand rank fourth in frequency of location; four hundred sixty-two (462) cases, or over five per cent of the total number of cases analyzed, of the personal cases seen by Dr. Bulkley of extra genital chancres, numbering 113, fifteen were of the fingers, thirteen in the male and two in the female. He saw a like number of cases of chancre of the lip, with a total of fifty cases. It is of interest to note that ten of the fifteen finger chancre cases were in physicians who contracted syphilis in the discharge of their professional duties.

It may be of interest to include one of Dr. Bulkley's cases, occurring in the same location as the one herein presented. Dr. X.M. aged twenty-nine, who was a physician in active practice in a neighboring city, presented himself March 21, 1887, with the following history: Four or five weeks before his visit, he noticed a swelling of the glands in the left axilla, which enlarged to the size of a pigeon's egg, remaining so for a couple of weeks and improving rapidly under the local use of iodine; he had noticed, for a little time before, a lesion on the back of the left index finger, which had not given him any trouble,

and had quite healed at the time of his visit, without specific treatment. On January 26, he had delivered a syphilitic woman who had had three abortions and he remembers having had a crack in the skin in the location mentioned, the weather being very cold; the child died about two weeks after birth, with unmistakable syphilitic symptoms. He had attended many other confinements, but knew of no other syphilitic case.

On the subsidence of the glandular swelling of the axilla, on March 1, an eruption developed on the breast, back, and thighs, accompanied by severe nocturnal headaches. At the time of his visit, the eruption had become very copious and affected much of the body, with some spots on the face; it consisted of large, flat, smooth platules, pretty evenly disseminated: he had also heart trouble.

The site of the chancre of the finger presented a livid discoloration, with vestiges of minute center slough, covered with an epidermic pellicle, and carefully palpated a distinct parchment induration could be detected. The subsequent history presents some interest. The eruption proved quite severe and a relapse occurred, even under pretty active treatment. He afterwards suffered from heart trouble, said to be mitral stenosis, which greatly improved under more active syphilitic treatment. His wife and one child aged six years, have thus far escaped infection. As the chancre on the finger had not been recognized or treated he must have exposed many others during the period before he came under observation, as he was in active practice.

In Fournier's² series of eleven hundred twenty-four cases of extra genital chancres, seventy-eight were seen in the upper lip.

In Cole's³ sixty-one cases, ten were reported as chancres of the hand.

In the writer's personal experience of over twenty-five extra genital chancres, the case herein reported is the only one of chancre of the hand or finger.

CONCLUSIONS

It seems feasible to infer from the above data that extra genital chancres are by no means uncommon and that physicians, espe-

cially, in the discharge of their duties, when handling known syphilitic patients, should use every precaution to prevent becoming infected. Any sore accompanied by induration and adenopathy, regardless of location, which has failed to respond to local treatments should be given the benefit of a dark field examination.

1. Syphilis in the Innocent. p. 37. Bulkley.
2. Fournier: Kingsbury, Dermatochromes, New York. 1915.
3. Cole: Jour. Am. Med. Assn. 1916. 1805.

—B—

BELL MEMORIAL HOSPITAL CLINICS

Clinical Pathological Conference of Dr. H. R. Wahl

MUCOID CARCINOMA OF THE SPLENIC FLEXURE OF COLON, ANOMALY OF THE LIVER, HEPAR LOBATUM, SYPHILIS OF THE LUNG.

This man aged 45, entered the hospital twenty-one days ago. He had a swelling of the abdomen associated with sharp jabbing pains. These pains were not constant nor were they sharply localized in any one part of the abdomen. At first they occurred once or twice a month, but they later became more severe and persistent so that he was compelled to give up work six months ago. For a time the pains were relieved by a cathartic or an enema. The bowels were constantly constipated, sometimes they would not move for two or three days. He was operated upon at another hospital for intestinal obstruction and a colostomy in the left inguinal region was performed. There was temporary improvement following the operation and then the abdomen again became swollen. The feet became edematous and there has been a loss of thirty-five pounds in weight since this operation. However, there has been no general weakness.

On physical examination we found a thin, worn, emaciated, pale man who had a large, distended, tender abdomen with a colostomy wound in the lower left inguinal region. There was shifting dullness in both flanks. The man's pupils reacted sluggishly to light and accommodation. The Wassermann test on the blood was positive. He had a well marked secondary anemia. Five days after entering the hospital four liters of a clear

serous fluid was removed from the abdomen. X-ray of the abdomen showed an obstruction in the splenic flexure there being a widely dilated transverse colon. Two weeks later an exploratory laparotomy was performed and tumor nodules were found in the omentum and scattered over the peritoneal surfaces. As the patient's condition was poor, the wound was hastily closed. Death occurred on the following day.

The clinical diagnosis was peritoneal carcinomatosis with a primary growth in the splenic flexure of the colon.

The autopsy findings are of extreme interest especially in view of the variety of extensive organic lesions and the relatively insignificant subjective symptoms exclusive of the partial intestinal obstruction. In the first place there was much peritoneal fluid, about 3,000 cc being present. This was blood tinged and contained several clots of blood. There was also considerable blood in the lower rectus muscles and in the prevesical region. This amount of hemorrhage was not sufficient to cause death though it may have been a contributing factor. Hemorrhage in the rectus muscles after operation is not uncommon and occurs even after careful ligation of a deep epigastric artery which causes the trouble. Surgeons frequently find difficulty in successfully tying off this vessel.

These are the organs removed at autopsy. This is the primary tumor situated in the splenic flexure of the colon. You will note that it formed a sausage shaped mass entirely covered by the muscularis and serosa, except at one point which is here and is apparently penetrating through to the peritoneal surfaces. Near the surface there are a few nodules not directly connected with the main tumor mass but embedded in the peritoneal membrane. On opening the gut, we find that the lumen is almost obliterated by a friable fungoid ulcerating tumor mass which entirely surrounds the gut forming an annular tumor measuring 6 cm in length. A section through this tumor has a peculiar gelatinous appearance and is composed largely of small lobules of jelly like tissue with small hemorrhages scattered about here and there. You will note how the edges of this ulcer

hang over the base, also how indurated and reddened the base appears and at the same time how the peritoneal surface in general is smooth and normal in most places. There is no involvement of the lymph nodes in this general neighborhood. However, there are many scattered white nodules in the omentum and on the peritoneum which on section show the same gelatinous, nodular, lobulated structure noted in the original tumor. The largest nodule was one measuring 2 cm in diameter and found between the bladder and the rectum. This tumor represents a typical mucoid (gelatinous or colloid) carcinoma of the splenic flexure of the colon with metastasis to the peritoneum. There are no metastases to the viscera and none could be demonstrated grossly extending to the lymph nodes.

While the clinical picture is largely explained by this tumor and the secondary peritoneal growth, the other lesions were even more interesting and illustrate how extensive organic changes may occur with few signs or symptoms and how illuminating a post-mortem examination may become.

In the first place note how dilated the first portion of the aorta is. It is almost twice as large as normal. At this side near the valve we see a pouch forming a beginning aneurysm. Also notice the inner surface of the aorta, how roughened and wrinkled and puckered it appeared. The marked longitudinal wrinkling noticed is especially characteristic of syphilis. Associated with this diseased aorta there is a hypertrophied heart weighing 450 grams without, however, showing any valve lesions. The coronary vessels are tortuous, thickened, hardened, and show very definite sclerosis.

The spleen as you notice here is very markedly enlarged and it is rather firm in consistency. It weighs 680 grams while the normal averages 150 grams. Besides this there is nothing worthy of particular note.

The liver condition is perhaps the most striking of all of the organs. In the first place its position is very unusual. The large portion of the liver, as you know, is always on the right side but in this case it is on the left side pushing the stomach considerably down below its usual position. Still more un-

usual is the fact that the gall bladder remains on the right side and embedded in the smaller portion of the liver, that is in the smaller right lobe. As you look at this organ, note its peculiar coarsely lobulated and distorted appearance. On the under surface you see at least twenty lobes. The surface of each of which is smooth. This distorted lobulation of the liver is also due to syphilis and is commonly referred to as *hepar lobatum*. This liver is much heavier than is normal, weighing 2450 grams instead of the average weight of 1500 grams. Note the right edge which tapers down and runs into a dense mass of fibrous tissue 2 to 4 cm in thickness into one side of which the gall bladder is partly buried. This mass of old inflammatory tissue extends down over the surface of the right kidney and also completely binds the upper and outer surface of the liver to the diaphragm, in fact extends to and binds down the lower diaphragmatic surface of the right lung also. It is very difficult and almost impossible to separate the diaphragmatic surface of the lung from the diaphragm or the diaphragm from the right portion of the liver because of this dense inflammatory tissue which when cut through shows flat areas of caseous material bounded on each side by dense masses of fibrous tissue. These caseous masses are apparently situated just beneath the diaphragm and suggest an old subdiaphragmatic abscess or gumma. Sections through the liver showed no gummata but abundant fibrous tissue especially about the portal spaces.

The other organ which is of special interest was the right lung. Note how rough and ragged the pleural surface and also note how torn and lacerated the under surface of the lower lobe appears. Not only this but there is a rusty mottled reddish brown color of the entire lobe and it feels tough and very definitely indurated. I cut through it with a knife and you see how hard it cuts. Note how prominent the walls of the bronchi and the vessels are and also see these prominent interlacing bands of fibrous tissue extending all through the surface. I have here a section of this lung under the microscope and you will see, as you look in, several very

striking changes. In the first place there is an organizing adhesive pleurisy and again there is a very marked thickening and fibrosis of the lung framework. We also find that the alveolar epithelial cells instead of being composed of flattened epithelial like cells are swollen and cuboidal in character, giving the picture of ordinary glandular structures rather than the usual appearance of air sacs of the lung. In addition you will find in between the air sacs a collection of mononuclear leukocytes especially plasma cells particularly abundant about the blood vessels and about the bronchi. There are also scattered multinucleated giant cells. These histological changes are all fairly characteristic of acquired syphilis as seen in the lungs. Induration of the lung tissue is particularly marked about the hilum in this particular case and is the condition that is usually found. The left lung shows similar changes but very much less advanced. The other organs present no changes worthy of special mention though the kidney does show evidences both of acute and chronic nephritis.

The point specially worth emphasizing here is that this patient had three distinct pathological processes only one of which was definitely recognized clinically. One is neoplastic, another congenital, and the third syphilitic in type. Mucoïd carcinoma (also called gelatinous or colloid carcinoma) is quite common in the splenic flexure, this location being one of the common places where carcinoma of the colon develops. About 10 per cent of tumors that occur in the large intestines occur in this region. The frequency of the gelatinous type of adenocarcinoma, to which this particular case belongs, varies in different statistics. It is, however, relatively common and in one series of statistics as many as 40 per cent were of this type. One point worth mentioning regarding these tumors is that they frequently occur at a relatively early age. The gelatinous or mucoïd carcinoma does not develop as rapidly as some of the other forms. It does not tend to metastasize to the lymph nodes but rather tends to penetrate through to the peritoneal surface and then spreads by direct implantation upon the surrounding viscera such as occurred in this

particular patient. A characteristic thing about these gelatinous carcinomata is that they are composed of nests of tumor cells which gradually undergo mucoïd degeneration so that in time they may be composed largely of masses or nests of mucoïd material in which scarcely any tumor cells can be seen.

Partial obstruction of the lumen produced by this tumor explains the symptoms of partial intestinal obstruction which the patient had and for which the colostomy was done. The size of the growth, however, was not sufficient to cause the extensive loss of weight and severe stabbing pains of which the patient complained, and one would expect, with the colostomy that was performed that the symptoms would have been largely removed. However, the patient did not show any permanent recovery, indicating that something else was to blame for the patient's symptoms besides the mere tumor obstruction in the splenic flexure.

The other condition probably responsible for some of the patient's downward progress is a syphilitic one evidenced by the positive Wassermann test, a dilated aortic arch, a pseudo-lobulated distorted liver; the sclerosis and granulomatous lesions of the lung and the distortion and wrinkling of the inner surface of the aorta. So frequent do we find the arch of the aorta dilated in syphilitic infections that many excellent physicians have regarded this as a pathognomonic sign of syphilis. This observation has been borne out in my experience in the post mortem room. Consequently, the x-ray demonstration and physical signs of a dilated ascending aorta are excellent evidences of clinical syphilis. The abnormal distortion and lobulation of the liver is also a pathognomonic sign of syphilis of the liver, but is not so readily detected clinically, unless the abdominal wall be thin and flaccid. Lung changes likewise are characteristic of acquired syphilis. The sclerosis about the hilum of the right lobe; the induration and glandular appearance of the alveoli with the granulomatous chronic inflammatory reaction are typical findings of pulmonary syphilis. These lung changes certainly were sufficient to have elicited definite physical signs yet no clinical observation was

made on the lungs other than a history note that nothing abnormal was found. This case shows that apparently all attention was focused on the abdominal condition and it required the post mortem room to reveal the complete pathology of the patient's condition. Here again we have an illustration of the value of a thorough physical examination of every patient whether surgical or medical.

The matting together of the surfaces of the liver and diaphragm and the lower surface of the lungs can be regarded as a further extension of a more acute syphilitic process there being a perihepatitis of a gummatous or syphilitic character. It is quite likely that the sharp stabbing pains complained of by the patient were due, in part at least, to this involvement of the diaphragm. The marked degenerating changes which were also present in the liver shows that the syphilitic process was evidently progressive and played an important part in the downward progress of the patient.

The other pathological process is probably a congenital one and consists in the unique liver anomaly in which the left lobe is very much larger than the right lobe. The condition resembles a situs transversus of the liver which is usually associated with transposition of all of the viscera but the fact that the gall bladder was on the right side in its usual position but in the smaller part of the liver places this anomaly in a different and very rare category. It is an anomaly in which the left lobe of the liver is the large one while the right is the smaller. It may be explained in two ways. It may be due to variations in the fetal circulation through the liver such as described by Rolleston, or, it may be due to marked cicatricial contraction of the right lobe with compensatory hypertrophy of the left lobe especially due to syphilis. The presence of syphilitic lobulation and other evidences of visceral syphilis renders such an explanation plausible in this case. Rolleston quotes a case of this type. However, the large left lobe seemed too regular and uniform so that a congenital factor cannot be ignored. It is unlikely that the anomalous liver was of any clinical significance, except that the large left lobe should

have been easily suspected by appropriate physical signs. This anomaly is extremely rare.

Clinic of Ralph H. Major, M.D.

Department of Medicine

PRIMARY CARCINOMA OF THE LUNG

At the present season of the year we are seeing a number of patients with acute respiratory symptoms, most of them examples of acute bronchitis or pneumonia, often post-influenzal. We also have always with us those patients suffering from pulmonary disease caused by the bacillus of Koch. The following patient is of particular interest since we believe his respiratory disease is due to none of these causes.

This patient is a man, white, single, age 45, a farmer by occupation. He was admitted to the Bell Memorial Hospital on March 2, 1923, complaining of cough and shortness of breath.

Family History. Negative.

Personal History. The patient's general health has always been good. He had measles, whooping cough and smallpox as a child. There has been no history of any respiratory distress until the onset of the present illness.

The patient has worked hard most of his life, has been out of doors a great deal and has had plenty of sleep and rest. He has always been considered an unusually healthy man.

Present Illness. The first symptom the patient noticed was shortness of breath which began eight months ago. He observed that he could not work very long without having to stop and get his breath. This shortness of breath on exertion increased gradually and presently he developed an irritating, hacking cough. At first the cough was not productive, but later he coughed up small quantities of sputum which was frequently blood-tinged. The patient has never had any pulmonary hemorrhages, but the cough has become progressively worse and the expectoration of bloody sputum has become more frequent.

The patient has had no chills, no night sweats and does not think that he has had

any fever. The dyspnoea is rapidly growing worse and has become so extreme that he can scarcely get his breath at all, and rest at night is practically impossible.

Physical examinations shows a fairly well nourished man propped up in bed, extremely dyspnoeic, his respiration being 32 per minute. There is marked cyanosis of the face and hands. There is no enlargement of the cervical lymph glands or of the thyroid.

The findings in the chest are of particular interest. The vocal fremitus is stronger over the right side. The percussion note on the right side from the clavicle down to the level of sixth interspace in the mamillary line is quite flat, below this the note is resonant to the eighth rib where liver dullness begins. Sonorous rales are heard over the area of flatness, but there is no tubular breathing and no suppression of breath sounds. The percussion note is resonant in the right axilla, but over the back the percussion note is flat from the upper margin of the scapula down to the level of the eighth rib and from the mid-line to the posterior axillary line. The area of flatness reminds one of a saddle-bag extending down over the upper anterior and posterior portions of the chest, leaving a resonant area between, in the axilla. The breath sounds are somewhat harsh over the flat areas. No areas of dullness are made out over the left side of the chest, but numerous sonorous and sibilant rales are heard over the left side as well as over the right.

Examination of the heart shows the relative cardiac dullness to extend 7 centimeters from the midsternal line in the fifth interspace. The cardiac dullness to the right is continuous with the lung flatness. The heart sounds are rather feeble but no murmurs are heard.

The liver is enlarged, extending 8 centimeters below the costal margin in the right mamillary line, and 11 centimeters below the xiphoid. The spleen is not felt. There is no ascites and no edema of the feet and ankles. Rectal examination is negative.

Laboratory examinations show the urine to have a specific gravity of 1018 and to be free of albumin, sugar and casts. The blood examination is:

R. B. C. 4,900,000.

W. B. C. 13,000.

Hemoglobin 90 per cent.

A gastric analysis shows a free hydrochloric acid value of 26 and a total acidity of 50.

The patients temperature has not been above 99.2° F. since admission. The pulse has varied from 80 to 90 per minute.

In discussing the diagnosis of this patients condition, the differential diagnosis rests between two possibilities: that of an encysted fluid such as an encysted empyema and that of a neoplasm of the lungs.

There is nothing in the history of this patient's illness to suggest that we are dealing with an infectious process or with an old neglected empyema. There is no history of an acute pleurisy, influenza or pneumonia. The patient gives no history of fever chills or night sweats, such as occur with empyema or tuberculosis. He has shown only a slight elevation of temperature since admission to the hospital and he has only a moderate leukocytosis. Five days after admission an aspirating needle was introduced into the right side of the chest, but no fluid was obtained.

On the other hand many features of this patients illness point to neoplasm of the lung as the correct diagnosis. The history of beginning shortness of breath, constantly and inexorably progressing, with a cough and blood-tinged sputum, with the absence of any symptoms of infection, point to a neoplasm. The unusual outlines of the striking board-like flatness with no displacement of the cardiac dullness, give added weight to the diagnosis of a lung tumor.

This diagnosis of malignant disease of the lung was confirmed by Dr. J. L. McDermott in the report of his roentgenographic findings. He reports that the upper two-thirds of the right lung shows a dense circumscribed consolidated area while the left lung shows several circumscribed smaller areas varying in size from a dime to a quarter. The areas in the left lung as you see in the x-ray plate are rounded, regular, clearly circumscribed, soft and homogenous, and do not show a shadow zone of inflammatory reaction surrounding them. This picture as pointed

out several years ago by Moore and Carman is characteristic of metastatic malignant disease of the lungs and in this patient we believe the metastases are from the growth in the right lung.

Secondary malignant growths in the lungs are relatively common while primary malignant tumors are comparatively rare. However, we feel that the tumor here is primary since very careful examination has shown no primary growth elsewhere. There is no enlargement of the lymph glands suggesting a primary tumor of lymphatic origin, there is no evidence of carcinoma of the stomach and carcinoma of the prostate has been excluded.

While primary carcinoma of the lung is rare, forming 1.5 per cent of all cancers, primary sarcoma of the lung is even more rare and on the basis of probabilities alone, the diagnosis of primary carcinoma is most likely to be correct. The history of blood-tinged sputum in the absence of outspoken pulmonary hemorrhage is very suggestive.

The earliest published record of a pulmonary carcinoma is Morgagni's description in 1708 of a necropsy in which the only finding was an "ulcus cancrorum" of the right lung. Bayle in 1810 described three cases of "phthisie cancreuse" and Stokes in 1842 made a careful study of this disease. Stokes laid great stress upon the occurrence of a gelatinous reddish sputum, but sputum of this character is only occasionally observed and moreover is not peculiar to pulmonary tumors. McMahon and Carman in 1917 collected 428 authentic case reports of primary carcinoma of the lung, and a number of cases have been described since that time. The Pathological Museum of the University of Kansas contains four specimens of this condition.

The prognosis in these cases is hopeless. Roentgen treatment will be tried here, but there is little hope of arresting the hacking cough and extreme dyspnoea which this patient presents.

This patient's dyspnoea and cyanosis increased, the patient later expectorated a bloody sputum constantly and died on March 14, 1923. An autopsy by Dr. H. R. Wahl showed a primary carcinoma of the lung.

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Dr. Thomas R. Brown, of Baltimore, believes that in the case of a great many physicians, the x-rays have consciously or unconsciously persuaded them to be much less thorough in their careful analysis of the case and in their clinical studies, and this, we feel, is very deplorable, because from x-ray studies alone diagnosis should not, and in many cases cannot, be made. The x-ray is but one of many means of reaching a diagnosis, none of which except in occasional instances is capable of furnishing the diagnosis *per se*, but each of which should be used in proper proportion in reaching a probable or, in rare instances, an absolute diagnosis. To show the difficulty even in the hands of experts, Dr. Brown suggests the advisability of having the same case studied under exactly the same conditions by various radiologists. In certain cases all will agree on the diagnosis. These, as a rule, are the easy cases, diagnosable by other means; but in a considerable proportion of cases very different diagnoses will be furnished by different men, all honest, all experienced, all capable in this field. The pictures are definite, the images on the screen are definite, but the interpretation always is a question of subjectivity, and must differ unless the picture is perfectly obvious. —International Clinics, March, 1923.

A student doubts the things he fancies he understands too easily as much as of those he does not understand.

THE JOURNAL

of The

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The Annual Meeting

Mark your calendar for May 2, 3 and 4 and keep those dates clear for the meeting of the Society at Kansas City. This will be one of the largest and most interesting meetings the Society has ever had.

Look over the program below and read up a little on the subjects you wish to discuss. We will have a stenographer there to report what you have to say.

Every day will be the big day at this meeting.

—R—

Cooperative Medicine

The spirit of co-operation was apparent in the early history of medicine and was first manifested in the Hippocratic oath. It materialized—in puling infancy, many years ago, in the rules of ethics of the American Medical Association; in sturdy youth, in the great national organization of today. But it has not yet reached maturity. A few years ago the ethics of the doctor was considered a subject for ridicule by the newspapers and the public. Today the same principles which have governed the conduct of one doctor toward another for a century have been adopted by the business men of the world—the manufacturers, the merchants, the bankers, and every trade and profession, even the trades

unions have amplified them and made them more drastic.

While the medical profession in the forming of its ethical rules has had regard more particularly for the dignity of the profession, the character of the individual and the morality of his conduct, the tradesmen and the industrial groups have also considered the more personal and intimate interests of the individual to whom the rules apply.

While the groups and organizations of business men have adopted the old principles of ethics of the doctors, they have added to them many co-operative features that insure strict observance of the rules and add an incentive for other affiliations.

The medical profession has not been too much concerned with the scientific development of the healing art, but it has been too little concerned with the personal interests of its members and the business side of the practice of medicine.

There is nothing more repulsive to the old-time ethical practitioner than the idea of commercializing medicine. Nevertheless, it is becoming more and more a reality and will ultimately be recognized as necessary to the highest development of the art. Eminent men in the medical profession, men of proven skill and experience group about them other men of skill and experience, invest hundreds of thousands in housing and equipment and to them flocks the public. Other men, not in the medical profession, with capital to invest, will not overlook so promising a field. Men of less renown, perhaps, but with sufficient skill and experience to meet the requirement, will be organized into groups and capitalized on a business basis.

The first group is regarded as in perfect harmony with our principles of ethics, but the latter group and those associated in it are definitely and positively proscribed. The dividing line between ethical and unethical commercialism of medicine seems to be the participation of a layman in the profits of the business. Economical efficiency is only possible in group practice, and efficient group practice requires considerable financial backing, so that ethical group practice is only possible for those in the medical profession

who have capital as well as skill and knowledge and experience. The only substitute for group practice, the commercial laboratories and the consulting specialists is too expensive for the average patient and not sufficiently lucrative to the physician.

CO-OPERATIVE DEFENSE

At the meeting of the State Society in May, there will probably be some discussion of plans for the future administration of the defense fund. This one of the society benefits has been realized by a considerable number of its members, but it is not only those who have been sued for malpractice that have benefitted, but a great many more who might have been sued had not this department of the Society's activities been in operation. Before the defense fund was established it was a very common thing for a doctor to be sued on false charges and manufactured evidence in order to force him to compromise. And it was usually cheaper for him to compromise than to hire a lawyer and fight it through the courts. But while the defendants can secure the very best defense for the small sum they pay for membership in the Society, there is no inclination to compromise. The membership should have a great deal of respect for this effort of the Society to lighten their burdens and anxieties.

There is one condition, however, which has caused no little worry to the Board and which may necessitate some revision of our plans. While the defense fund pays all the expenses in defending a suit for malpractice, it does not provide for the payment of a judgment in case one is secured. And out of this fact has come the situation which must now be considered. While no judgments have been secured against one of our members for the past ten years, when the defense was conducted by the Defense Board, every one realizes that such a thing may happen. And because they realize that it may happen a considerable number of members provide themselves with policies in some of the indemnity companies which indemnify them against both the cost of the suit and judgment. But they seem to have most confidence in the defense offered by our Society and, as they

have a right to do, ask for its assistance. The defendant wins the case, the Society pays the expenses and the indemnity company is out little or nothing.

These members of the society who carry indemnity insurance are just as much entitled to the assistance of the Society as those who do not, but there should be some arrangement by which the indemnity company should bear a fair portion of the expense or the Society should provide for the payment of judgments as well as costs of defense.

It does not seem very likely that any satisfactory arrangement can be made with the indemnity companies, for in spite of the fact that our defense has benefitted them to considerable extent, and they no doubt have as many policy holders among our members as they would have had had the defense fund never been founded, their agents have seemed to antagonize and discredit its advantages.

It does seem possible, on the other hand, that some practical and economical method can be devised whereby the Society can provide protection against judgments also. Any doctor in any community may be sued for malpractice sometime. Even though he be judgment proof he must defend himself for the sake of his reputation, and he will prefer not to have a judgment hanging over him.

One of the first considerations, therefore, in devising a plan for further defense is the question of its support. Our present defense fund is available to every member of the Society and it seems that every member should also be indemnified against possible judgment. From this point of view one should figure on an increase in annual dues or an annual assessment sufficient to pay all probable judgments and accumulate a permanent fund, the interest on which would provide for such emergencies.

While the Society has the right to levy and collect assessments it would simplify the matter to increase the annual dues sufficiently to provide the necessary funds. If \$5.00 be added to the annual dues this would amount to \$8,000 per year with our present membership. Placed at interest at $5\frac{1}{2}$ per cent and increased each year by \$8,000 this would amount to \$47,104.16 in five years, pro-

vided no demands would be made upon the fund during that time. This amount at 5½ per cent will yield an income of \$2,590 per annum which should be sufficient to provide for all emergencies—more than enough if estimated upon the records of the Defense Board. If at any time after this period the income proved inadequate an assessment could be made to recuperate the invested fund. The experience of the past ten years justifies the opinion that with this amount available every member of the Society can be indemnified against judgments and the regular defense fund will take care of the costs of defending these cases.

It is hardly reasonable to believe that any member of the Society will object to paying this additional amount of dues for the benefits received. It would save those who are now carrying indemnity insurance at least \$16 a year for the next five years and much more than that after five years. It will afford all members the very best indemnity for less than one-fourth what they would have to pay an indemnity company for the same protection. This is offered only as a suggestion and it is probable that some other and better plan may be proposed. At any rate the members of the Society should consider the advisability of adopting some plan of this kind.

CO-OPERATIVE COLLECTIONS

The efficiency of any co-operative effort is largely dependent upon the number of those co-operating. This is particularly the case with the Credit and Collection Bureau. Attention has been repeatedly called to the fact that the collection of accounts is only one—the least important one—of the purposes of this bureau. But it is only possible for the bureau to be completely efficient when all of its members send in their delinquent accounts. Its most important service is in supplying the members with credit ratings of their patrons and prospective patrons. Lists of delinquents are now being sent out as rapidly as they can be made up. Recently a list of 470 delinquents was sent to the members of a county society whose membership is more than 100. The names on this list were

supplied by less than one-fourth of its members. This is very poor co-operation. These few members supplied the data for some very valuable information to the other members, but they received none in return. If every member of that county society will send his delinquent accounts to the bureau during the next thirty days, the bureau in return will supply him with a list of practically every individual in the county who does not pay his doctors, and will in addition collect for him a sufficient amount to fully justify him for his time and trouble.

The average of the county society membership is thirty. If each of these thirty members sends his delinquent accounts to the bureau, he will receive in return a list of those who have failed to pay the other twenty-nine members. That certainly ought to be worth considering. No one can give this proposition a little thought without seeing the very considerable benefits to be gained.

Of course these reports could be supplied if every member simply reported a list of his non-pay patients, but in order to pay the expenses of the bureau there must be some income and the very small commission which is charged on accounts collected pays the expense of postage and stationery.

Each county society should take this matter under consideration at a regular meeting and the members advised to take advantage of this opportunity to improve the business methods of the profession in the state.

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Post Graduate Courses in Summer Session

Post graduate courses to be offered in the summer session of 1923 in the Kansas University School of Medicine.

These courses are designed especially to meet the needs of the general practitioner who wishes to brush up in medicine and become acquainted with recent advances in medical science and to give him practical applications of the modern clinical and laboratory methods in the diagnosis and treatment of disease.

Three courses will be offered by the department of medicine each given two mornings a week so that all three may be taken. One of these courses is that given by Dr. Russel

L. Haden who has charge of the Clinical Laboratory Diagnosis and Metabolic Clinic of the University hospital. His course will include practical work in blood chemistry, serology and basal metabolism. The value of blood sugar tolerance tests in diabetes and of blood urea, creatinin and chloride determinations in nephritis and intestinal obstruction are some of the instructive subjects scheduled. In addition ample opportunity will be given to acquire skill and experience in such elementary procedures as blood counting, examination of blood and sputum smears, gastric and duodenal analysis, urinary examinations, bacteriological methods, Schick test for Diphtheria, etc. The work will be arranged, where possible, to fulfill the needs of the individual physician without requiring him to stay the entire four weeks if not able to remain throughout the course.

Two mornings of the week will be devoted to a series of bedside clinics and ward walks by Dr. Peter T. Bohan, Professor of Clinical Medicine. This will include the demonstration and examination of patients with a thorough discussion of the differential diagnosis and therapy supplemented by fluoroscopic and x-ray findings, Wassermann tests, metabolism studies, blood chemistry, etc.

For the remaining two mornings of the week the clinical courses will be given by Dr. Ralph H. Major, Professor of Medicine. In this course, special stress will be placed on physical diagnosis. Patients will be assigned to members of the class who will make their own physical examination followed by a general discussion of the case. The new method of treating diabetes will be taken up and illustrated with cases treated in this Hospital. A constant effort will be made to show how an accurate diagnosis and successful treatment may be made in most all cases with only the equipment found in the average practitioner's office.

These clinical courses will be given from 10 to 12 each morning. The Department of Pathology will give courses in autopsy technique, tissue diagnosis and functional pathology from 8 to 10 each morning. This work is given by Dr. H. R. Wahl, Professor of Pathology. Special emphasis will be placed on

the pathological basis of disturbances in function and a close correlation with the clinic is maintained. When an autopsy is performed a conference will be held with the clinical men in order to compare the findings of the clinic with those of the post mortem room. Considerable time will be devoted to discussion of pathological physiology, illustrated with museum and fresh autopsy material. While this course is not so specially designed for the general practitioner, in the past summer most of the physicians have elected it and found it very instructive.

While the above four members of the staff are planning courses especially for graduate physicians all students enrolling in the summer session will be welcome and given instruction in clinics given by other members of the staff such as Orr, Francisco, Davis, Sudler, Ockerblad, Hertzler, Guffey, Dennie, Black, etc. Most of these give clinics in specialties such as gynecology, obstetrics, pediatrics, genito urinary and dermatology and are given between 1 and 4 in the afternoons and can be attended without conflicting with medical clinics in the morning.

The only fee required is the regular summer session fee of the University which amounts to ten dollars. The session will begin June 11 and end July 7, except the courses in Pathology which will end July 21. While attendance throughout the four weeks course is most desirable enrollment for a shorter period should prove profitable. For further information address the Dean of the Medical School at Rosedale, Kansas.

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Fifty-Seventh Annual Meeting of the Kansas Medical Society, May 2nd, 3rd and 4th, 1923, Chamber of Commerce, 727 Minnesota Avenue, Kansas City, Kansas

Committee on Arrangements—Dr. J. F. Hassig, Dr. C. C. Nesselrode, Dr. Hugh Wilkinson, Dr. L. B. Spake, Dr. J. W. Faust, Dr. C. M. Brown and Dr. W. J. Gates.

Committee on Entertainment—Dr. F. Campbell, Dr. J. W. May, Dr. L. F. Barney, Dr. L. G. Allen, Dr. L. L. Bresette, Dr. E. A. Reeves and Dr. H. E. McCarthy.

Entertainment—Banquet, Thursday, May 3d at 6:30 p. m., at Masonic Temple, Seventh street and Ann avenue, which will be followed

by vaudeville, given for the members of the Society, their wives and sweethearts, by the Wyandotte County Medical Society.

Guests—The following named guests will address the Society: Dr. H. W. Woodruff, Joliet; Dr. Geo. James Musgrave, Chicago; Dr. V. C. Hunt, Rochester, Minn.; Dr. W. A. Pusey, Chicago; Dr. J. E. Rush, New York, Field Director of the American Society for the Control of Cancer and Dr. T. Howard Plank, Chicago.

Exhibitors—These firms have reserved space for commercial exhibits: A. S. Aloe, St. Louis, Surgical Instruments, etc.; Erschell Davis Co., Kansas City, Mo., Surgical Instruments; Hettinger Bros., Kansas City, Mo., Surgical Instruments; Horlick's Malted Milk Co., Racine, Wis.; H. A. Metz Laboratories, New York, Medicinal Preparations; Iodum-Miller Co., Kansas City, Mo., Chemists; C. F. Mills, Kansas City, Mo., X-ray and Physiotherapy; Radium Chemical Co., Chicago, Radium and Radium Preparations; Riggs Optical Co., Kansas City, Mo., Wholesale Opticians; W. A. Rosenthal X-ray Co., Kansas City, Mo.; E. R. Squibb and Sons, New York, Manufacturing Chemists; Victor X-ray Co., Kansas City, Mo.

Meeting of County Secretaries—This meeting will be held in the Small Dining Room of the Chamber of Commerce at 12:30 p. m. Wednesday, May 2d. Luncheon will be served.

Meeting of the Council—Meeting will be held in the north, or front auditorium, second floor, Chamber of Commerce, Wednesday, May 2d, 8:30 a. m.

Meeting of the House of Delegates—This meeting will be held in the main auditorium, second floor, Chamber of Commerce, Wednesday, May 2d, 7:30 p. m. The following order of business will be observed:

- Reading of minutes of last meeting.
- Reports of Secretary, Treasurer and Councilors, Medical Defense Board.
- Reports of Standing Committees.
- Reports of Special Committees.
- Unfinished Business.
- New Business.

FRIDAY, MAY 4TH

Meeting of House of Delegates at 8:30 a. m. in north or front auditorium, second floor, Chamber of Commerce:

- Roll Call.
- Election of Officers:
- President.
- Three Vice Presidents.
- Secretary.
- Treasurer.
- One Delegate to A. M. A.
- Councilor for the 4th, 5th, 9th, 11th and

12th Districts (12th District for 2 years' term).

Following is the Scientific Program. (Subject to rearrangement.) Program will be given in main auditorium, Chamber of Commerce.

PROGRAM—WEDNESDAY, MAY 2, 8:30 A. M.

"Race Improvement," Dr. M. L. Perry, President, Topeka.

"Ureteral Stricture, with Report of Cases," Dr. E. A. Pickens, Wichita.

Lantern Illustrations. Discussion opened by Dr. R. N. Gouldner, Wichita.

"The Treatment of Mental Illness," Dr. Karl A. Menninger, Topeka. Discussion opened by Dr. L. C. Bishop, Wichita.

"End Results of Suprapubic Prostatectomy," Dr. V. C. Hunt, Rochester, Minn.

"Post-operative Pulmonary Embolism," Dr. John L. Caline, Wellington.

"High Blood Pressure in Pregnancy and Some of the Etiological Factors," Dr. M. W. Hall, Wichita.

"Insulin Treatment of Diabetes," Dr. Ralph Major, Rosedale. Discussion opened by Dr. C. F. Menninger, Topeka.

"Puerperal Eclampsia, with Report of Cases," Dr. H. M. Glover, Newton. Discussion opened by Dr. John D. Clark, Wichita.

"Bilateral Destruction of the Kidneys," Dr. Arthur D. Gray, Topeka. Discussion opened by Dr. R. B. Stewart, Topeka.

"Arterial Hypertension," Dr. L. S. Milne, Kansas City. Discussion opened by Dr. Thor Jager, Wichita.

"Our Changing Knowledge of Eczema," Dr. W. A. Pusey, Chicago.

"The Anaemias," Dr. J. L. Lattimore, Topeka. Discussion opened by Dr. R. C. Hayden, Rosedale.

THURSDAY, MAY 3RD, 8:30 A. M.

"Cleft Palate and Hare Lip," Dr. M. T. Sudler, Lawrence. Discussion opened by Dr. E. G. Blair, Kansas City.

"Experiences in One Hundred Consecutive Fractures," Dr. D. E. Broderick, Wichita. Discussion opened by Dr. D. W. Basham, Wichita.

"The Treatment of Acne," Dr. Homer G. Collins, Topeka. Discussion opened by Dr. C. C. Denmie, Kansas City.

"Recent Advances in the Treatment of Diabetes Mellitus," Dr. G. A. Chickering, Hutchinson.

"Ocular Manifestations of Syphilis," Dr. H. W. Woodruff, Joliet, Ill.

"Empyema," Dr. Chas. S. Campbell, Coffeyville. Discussion opened by Dr. E. G. Coyle, Coffeyville.

"Basal Cell Carcinoma," Dr. Harry Blas-

del, Hutchinson. Discussion opened by Dr. M. Trueheart, Sterling.

"Tumor of the Bladder." Dr. H. E. McCarthy, Kansas City. Discussion opened by Dr. F. M. Denslow, Kansas City.

"Syphilis of the Stomach." Dr. E. H. Terrill, Wichita. Discussion opened by Dr. L. A. Sutter, Wichita.

"Practical Aspects of Endocrinology," Dr. P. M. Krall, Kansas City. Discussion opened by Dr. C. A. McGuire, Topeka.

"The Nasal Accessory Sinuses," Dr. Geo. James Musgrave, Chicago.

"Is the Death Rate in Appendicitis Increasing, and if So, Why?" Dr. R. C. Dugan, Ottawa. Discussion opened by Dr. E. E. Liggett, Oswego.

FRIDAY, MAY 4TH, 9:00 A. M.

The morning will be devoted to a clinic conducted by Dr. Geo. James Musgrave of Chicago and Dr. H. W. Woodruff of Joliet.

"Presentation of Cases in Pediatrics—Enlarged Thymus." Intestinal Infantilism—Muscular Dystrophy—Spasm Nutans—Mongolian Idiocy. Dr. H. L. Dwyer, Kansas City.

"Toxic Goiter," Dr. C. C. Nesselrode, Kansas City. Discussion opened by Dr. H. W. Horn, Wichita.

"Intra-abdominal Examination by the Aid of the Peritoneoscope," Dr. W. E. Stone, Florence. Discussion opened by Dr. John L. Evans, Wichita.

"The Control of Cancer," Dr. J. E. Rush, New York, Field Director American Society for the Control of Cancer.

"Handy Office Remedies—An Old Drug Dressed Up and a Common Remedy, Very Efficient but Seldom Used," Dr. P. S. Mitchell, Iola. Discussion opened by Dr. G. A. Blasdel, Hutchinson.

"Electro-coagulation," Dr. T. Howard Plank, Chicago. Lantern Slides.

"The Care and Treatment of Tetanus," Dr. L. W. Shannon, Hiawatha. Discussion opened by D. L. Reynolds, Horton.

"Hens," Dr. H. L. Charles, Atchison. Discussion opened by Dr. C. A. Lilly, Atchison.

"The Woman-Child Problem from an Economic Standpoint," Dr. Frances A. Harper, Pittsburg.

Past Presidents

The following is a complete list of the past presidents of the Kansas Medical Society:

S. B. Prentiss, Lawrence....1859-60
J. P. Root, Wyandotte.....1860-66
C. A. Logan, Leavenworth...1866-67
A. Newman, Lawrence.....1867-68
John Parsons, Mt. Pleasant..1868-69
M. Bailey, Topeka.....1869-70
M. S. Thomas, Leavenworth.1870-71

D. C. Jones, Junction City..1871-72
W. W. Cochrane, Atchison..1872-73
H. K. Kennedy, Topeka....1873-74
J. S. Redfield, Fort Scott...1874-75
Tiffin Sinks, Leavenworth..1875-76
H. S. Roberts, Manhattan...1876-77
W. L. Schenck, Osage City...1877-78
C. C. Furley, Wichita.....1878-80
B. E. Fryer, Ft. Leavenworth1880-81
J. H. Stuart, Lawrence.....1881-82
G. W. Haldeman, Paola.....1882-83
D. W. Stormont, Topeka....1883-84
C. H. Guibor, Beloit.....1884-85
H. O. Hannawalt, K. C.....1885-86
F. D. Morse, Lawrence.....1886-87
L. A. Buck, Peabody.....1887-88
J. Bell, Olathe.....1888-89
C. C. Green, Winfield.....1889-90
J. E. Minney, Topeka.....1890-91
J. E. Oldham, Wichita....1891-92
F. F. Dickman, Fort Scott..1892-93
G. W. Hogeboom, Topeka...1893-94
W. R. Priest, Concordia....1894-95
R. S. Black, Ottawa.....1895-96
F. M. Dailey, Beloit.....1896-97
C. A. McGuire, Topeka....1897-98
Jas. A. Lane, Leavenworth..1898-99
Chas. Gardiner, Emporia...1899-00
J. W. Porter, Pittsburg....1900-01
L. H. Munn, Topeka.....1901-02
Jas. W. May, Sr., K. C.1902-03
W. E. McVey, Topeka.....1903-04
L. Reynolds, Horton.....1904-05
C. E. Bowers, Wichita.....1905-06
Lyman L. Uhls, Osawatimie 1906-07
J. E. Sawtell, Kansas City..1907-08
C. C. Goddard, Leavenworth 1908-09
O. J. Furst, Peabody.....1909-10
O. P. Davis, Topeka.....1910-11
J. T. Axtell, Newton.....1911-12
Geo. M. Gray, Kansas City..1912-13
M. F. Jarrett, Fort Scott...1913-14
W. F. Sawhill, Concordia...1914-15
O. D. Walker, Salina.....1915-16
J. W. May, Kansas City....1916-17
Chas. S. Huffman, Columbus 1917-18
W. S. Lindsay, Topeka....1918-19
E. E. Liggett, Oswego.....1919-20
C. C. Klippel, Hutchinson..1920-21
C. S. Kenney, Norton.....1921-22
M. L. Perry, Topeka.....1922-23

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CHIPS

Man was created upright but he has sought out many inventions. It is the same in the practice of medicine. It is a recognized fact, now, that a physician needs his brain in his business. That is, he needs to exercise occasionally the cells in the little thin covering

or sheet of gray matter extending from the top of his head to the forehead. Instruments, mechanical devices and experts for a time bid fair to do away with the need for the average doctor to use his own think works.

There is danger in doing something too much the same as doing nothing too much. The curriculum of a class "A" medical college is an illustration of requiring too much of its graduates. A man who can technically comply with these requirements can do what Josh Billings said of a man he knew "who could wear a paper collar a whole month and not get it dirty. But that was all he could do." (Prodigal.)

Examinations by the National Board of Medical Examiners will be held as follows:

Part I June 25, 26, 27, 1923.

Part II June 28, 29, 1923.

All applications for these examinations must be made on or before May 15th. Further information may be obtained from the Secretary, Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia, Pa.

Sir Humphrey Rolleston, in discussing the subject of high blood pressure suggests as a rough rule for arriving at the healthy systolic pressure for a man's age that 100 be added to the age and that the result should be considered the maximum systolic pressure which should not cause anxiety; and to consider 100 plus half the age as the most satisfactory healthy systolic pressure. In women the pressure should be 10 m. m. lower. Up to middle life the diastolic should be three quarters of the systolic pressure but in old age it may be only one-half the systolic.

It is claimed by Gordon Holmes (Lancet March) that belladonna is one of our most valuable remedies in the treatment of epilepsy especially petit mal. The tincture is given in doses of 10 minims or 15 minims two or three times a day according to the tolerance of the patient. He insists that bromide should be given with it. Toxic symptoms should be avoided. If beneficial results are obtained the drug must be continued for on omitting

the drug or reducing the dose the seizures will recur.

Matheson and Ammon have shown (Lancet Mar.) that histamine when given in small doses subentaneously excites a flow of gastric juice. Both pepsin and hydrochloric acid secretion is increased. The dose required to produce this effect is not harmful and produces no general disturbance.

There are in this country, particularly in Kansas, a great many legislative philanthropists—people who are willing to spend a lot of their own time and other people's money in trying to secure laws to prevent other people doing things they don't approve of. When enough people want a law passed they get it with little difficulty and it is most likely to be enforced, but there are too many people who think they know what kind of laws the people ought to have.

There have been fifty-eight presidents of the Kansas Medical Society and only two have served for more than one year. Dr. J. P. Root, second president of the Society was elected in 1860 and served until 1866 because no meeting was held during the interval. Dr. C. C. Furley of Wichita was elected president in 1878 and reelected in 1879. This is the only instance in the history of the Society of the reelection of a president for a second term.

Since so much reliance has been placed upon x-ray diagnosis of diseases of the lungs, *hilar tuberculosis* is rapidly growing in importance, although hilum shadows are not always associated with clinical evidences of the condition. Positive x-ray findings are not always confirmed by physical examination nor are positive physical findings always confirmed by x-ray findings.

James Kingston Fowler described hilum tuberculosis as "a shadow first seen in a darkened room and not yet clearly recognized in the daylight of the post mortem room." It must be admitted, however, that x-ray findings have lead to more careful physical examinations and the definite diagnosis of this manifestation of tuberculosis in many cases that would otherwise have been overlooked.

A good many tests have been suggested to determine the existence of enlarged bronchial glands. The most popular of these are: Dullness in the intrascapular region; dullness over and just beyond the manubrium; dullness over the spinous processes of the fifth and sixth vertebrae; tenderness over the spinous processes of the second to the seventh dorsal vertebrae; a murmur heard on auscultation over the manubrium with the patient's head thrown back (Smith's); a bronchial blowing sound in the intrascapular region; pectoriloquy heard on auscultation over the spinous processes—below the bifurcation of the trachea in adults or below the seventh cervical vertebra in infants (D'Espine's).

Bruichmann in a comparative study found that none of these tests were constant in these cases, though d'Espine's sigh was present in 65 per cent of 103 cases otherwise positive, and in 12 per cent of 77 cases otherwise negative. It seems that neither x-ray findings nor clinical tests are very reliable in the diagnosis of this condition.

Besche and Jorgensen made a systematic investigation to determine the risks involved by marriage of a healthy person to a consumptive, and their report has recently been published. In a search of the records in Christiana they found 742 wedlocks in which one of the partners suffered from pulmonary tuberculosis. In these wedlocks there were 39 in which both partners were reported as tuberculous and in six of these both partners had been reported before marriage. Of the 33 remaining cases, 16 had grown up in tuberculosis surroundings and of these, 6 had shown signs of tuberculosis at an early age. The other 16 had grown up in healthy surroundings but five of them had enlarged glands as children or had suffered from apical catarrh or pleurisy before wedlock. Thus leaving only 11 in which one partner might have been infected by the other, or 1.48 per cent. They do not consider the evidence convincing that these 11 cases were instances of conjugal infection.

A further study of hydatidiform mole has been undertaken at the Chicago Lying-in Hospital in regard to the frequency of malignancy following this condition.

An attempt is being made to collect case reports from outside physicians. Cases reported by physicians will be greatly appreciated and the physician will be given due credit in any literature published.

Address communications to Robert B. Kennedy, M.D., Chicago Lying-in-Hospital, Chicago, Ill.

The use of the defecation reflex through the spinal cord is a novel aid in the treating of constipation advocated by Professor W. A. Newman Dorland, of Chicago, in the March, 1923, issue of the *International Clinics*. This reflex can be artificially excited in a very large proportion of patients, within fifteen to twenty seconds, by resorting to the following procedure: A folded sheet of toilet-paper is laid over the anus; the patient relaxes the sphincters completely and bears down, while with the index finger of the right hand she gently makes a series of rapidly broken compressions, about ten or twelve or less, directly over the anus. On ceasing this motion there will immediately follow a desire to defecate, which should be aided by a gentle bearing down. It has been estimated that the period of time elapsing between the anal stimulus and the initial reflex response is about 0.02 second. It must be borne in mind that holding tant the rectal sphincters will completely abolish the defecation reflex, since this involves a strong contraction of all the muscles of the pelvic floor, which action results in immediate inhibition of the defecation reflex. Dr. Dorland believes that if this simple procedure is carefully carried out at a regular daily hour, preferably in the early morning, the average case of constipation will be relieved and a regularity of body-habit established that will work wonderfully for the physical benefit of the patient. Laxatives, purgatives and cathartics undoubtedly have their place in the treatment of constipation, but their use should be restricted as largely as possible, and should not usurp the preferable methods of regulation of the bowels by the adoption of carefully selected diets, the observance of proper hygiene, the performance of daily exercise of various appropriate kinds.

SOCIETIES

STAFFORD COUNTY SOCIETY

Society met in St. John at 3:00 p. m. Members present: W. L. Butler, F. W. Tretbar, J. J. Tretbar, Stafford; L. E. Mock, C. S. Adams, J. T. Scott, St. John. The meeting was devoted to case reports. Each of the doctors present reported one or more cases. An interesting discussion followed the reports. This was the first meeting of this society devoted to case reports exclusively and proved to be so interesting that a repetition was arranged for the April meeting. Dr. J. J. Tretbar was selected as delegate to the state meeting and Dr. F. W. Tretbar as alternate.

J. T. SCOTT, Sec.

DECATUR-NORTON COUNTY SOCIETY

A called meeting of the Decatur-Norton County Medical Society was held at the Country Club, Norton, Kansas, on Monday afternoon, March 12, 1923, with the following members present: Dr. W. C. Lathrop, Dr. C. W. Cole, Dr. R. M. Tinney, Dr. H. O. Hardesty, Dr. C. S. Kenney, Dr. A. G. Davis, Dr. F. D. Kennedy.

Visitors were Doctors F. L. Loveland, S. L. Cox and C. H. Lerrigo, of Topeka; Dr. W. F. Deal of Edmund, and Dr. R. K. Hoover, of Norton.

The program was as follows: 10:00 a. m. Visit to the State Sanatorium for Tuberculosis. 12:00 m. Luncheon, guests of Norton Rotary Club. 2:00 p. m.—Commercial Club rooms. Review of Article, "How I Won the Battle With Tuberculosis in My Own Home." Dr. F. L. Loveland. "Clinics," Dr. S. L. Cox. "State Tuberculosis Association," Dr. C. H. Lerrigo. Dinner—Guests of Norton Commercial club. Secretary's Report—Dr. C. S. Kenney. Election of officers.

The following resolutions were passed:

Whereas, For the first time in the history of our Medical Society since its inception in 1904, death has entered and claimed two of our worthy brothers, Doctors W. S. Hunter and Arthur Reeves; and

Whereas, The members of their immediate families, the medical fraternity and the community at large have suffered a distinct loss in the early demise of these most worthy brothers; be it therefore

Resolved by the members of the Decatur-Norton County Medical Society, at a regular meeting assembled, that we extend our sincere sympathy to the families of the deceased; and be it further

Resolved, That these resolutions be spread

upon the minutes of the Society and that a copy be sent to the families of the deceased.

Committee—F. D. Kennedy, R. M. Tinney, C. S. Kenney.

Dr. W. F. Deal of Edmund was voted in as a member of the Society.

Officers elected for 1923 were: President, H. O. Hardesty; First Vice President, F. D. Kennedy; Second Vice President, Herbert S. Bennie; Secretary and Treasurer, C. S. Kenney; Censor, Dr. A. G. Davis; Delegate to State Meeting, H. O. Hardesty, C. W. Cole.

Meeting adjourned.

C. S. KENNEY, Secretary.

FRANKLIN COUNTY SOCIETY

The Franklin County Medical Society met in the North American Hotel in Ottawa, Feb. 28. Following the dinner the members were instructed and entertained by a discussion of hernia by Dr. J. P. Kaster of Topeka, chief of the Santa Fe medical service. Particular emphasis on the hereditary condition back of this common surgical trouble was the feature of Dr. Kaster's talk.

Dr. Berger, a psychologist, spoke briefly regarding some of the manifestations of the subconscious mind. Members present were: Drs. Herr, Gilley, Neighbors, Gossett, G. W. Davis, Josephine Davis, Dugan, Trump, Jacobus, Woods, Hardy and Mahaffey.

G. C. MAHAFFEY, Sec.

FRANKLIN COUNTY SOCIETY

The Franklin County Medical Society held its regular meeting in the dining room of the North American Hotel in Ottawa, March 28th. After dinner and the regular business of the Society, Dr. C. F. Menninger of Topeka presented a very instructive paper entitled "Some of the Clinical Aspects of Diabetes." He was followed by Dr. Karl A. Menninger who talked of "Signs and Symptoms of Mind Diseases and Mental Diseases." Both papers were discussed by members of the Society.

G. C. MAHAFFEY, Sec.

SUMNER COUNTY SOCIETY

The Sumner County Medical Society met Thursday, March 29th, at the Park House, Wellington, Kansas. The following program was presented:

1. Paper. The Sumner County Medical Society. Dr. A. J. Hetherington, Mayfield.

2. Paper. Of Particular Interest to Every Doctor. Dr. W. H. Neel, Wellington.

Discussion. Opened by Dr. A. R. Burgess, Peck. Dr. F. G. Emerson, Wellington.

3. Paper. Influenza. Dr. J. C. Caldwell, Wellington.

4. Paper. The After Effects of Influenza. Dr. M. W. Axtell, Argonia.

Discussion. Opened by Dr. C. E. Thompson, Oxford. Dr. H. A. Vincent, Wellington.

AMERICAN PROCTOLOGIC SOCIETY

The following is a preliminary program of the twenty-fourth annual meeting to be held in Los Angeles, California, June 22 and 23. The profession is cordially invited to attend the public sessions. The Hotel Alexandria is the meeting place and headquarters. Clinics will be held at the Los Angeles County Hospital.

Presidential Address, Dr. Emmet H. Terrell, Richmond, Va.

1. A Plea for the Protection of Young Wives against Venereal Disease, Dr. Joseph M. Mathews, Seattle, Wash.

2. Gastroenteroptosis: Treatment, Dr. William H. Axtell, Bellingham, Wash.

3. Circular Amputation for Marked First and Second Degree Prolapse of Rectum. Lantern Slides. Dr. Frank C. Yeomans, New York, N. Y.

4. Case Reports: Villous Tumor, Large Papillary Adenoma, Fistula. Lantern Slides. Dr. Harold E. Dunne, Washington, D. C.

5. Pruritus of the Anus. Dr. Joseph F. Montague, New York, N. Y.

6. Hydrochloric Acid in the Treatment of Rectal Affections. Dr. Granville S. Hanes, Louisville, Ky.

7. The Ambulant Treatment of Ano-rectal Fistula. Dr. Arthur C. Crookall, Seattle, Wash.

8. Ano-rectal Operations under Local Anaesthesia. Dr. Joseph F. Saphir, New York, N. Y.

9. Case Reports: Lipoma of Buttock Resembling Female Breast with Nipple. Photographs. Dr. Isaac L. Ohlman, Pittsburg, Pa.

10. Case Report: Tuberculosis of Anus and Rectum. Dr. William M. Beach, Pittsburg, Pa.

11. Cancer. Dr. J. Rawson Pennington, Chicago, Ill.

12. The Location of Internal Hemorrhoids and its Bearing on Treatment. Dr. Louis J. Hirschman, Detroit, Mich.

13. Rectal Discomfort Due to Extra-Rectal Pathology. Dr. Alois B. Graham, Indianapolis, Ind.

In addition to the regular papers, at convenient times during the scientific and clinical sessions, there will be demonstration of instruments and operative technique and discussion of several important proctologic subjects as requested by certain Fellows.

RALPH W. JACKSON, Secretary.

JACKSON COUNTY SOCIETY

The Jackson County Medical Society met in the Memorial Hall of the Court House Friday evening, March 2d, 1923, and adopted the following resolutions:

Resolved by the Jackson County Medical Society this 2d day of March, 1923, that, through its delegate to the Kansas State Medical Association, it respectfully petitions that body to instruct its delegates to the meeting of the American Medical Association for the session of 1923 to present amendments to the Constitution and By-Laws of the American Medical Association which shall embody provisions as follows:

First: Amendments to the Constitution by which—

1. The declared purpose of the Association shall embrace a declaration that it stands for educational, social, civic and economic interests of the medical profession.

2. The restoration of the original powers of the House of Delegates to embrace its right to legislate, not only on general affairs of the Association but especially upon questions of polity, to appropriate money for carrying out the same, and to have such legislation carried into effect without being subjected to adverse action by any board, committee, officers, or attache of the Association.

Second: Amendments to the By-Laws of which—

1. There shall be an ad-interim session of the House of Delegates, to be known as the semi-annual session, to be held at the headquarters of the Association in Chicago.

2. There shall be specific definition and limitation of the power of the Board of Trustees to their legitimate function as custodian of the assets of the Association.

3. There shall be specific definition and limitation of the power of the General Manager to embrace the function of (a) the publisher of periodicals and books owned and published by the Association; (b) supervisor of the buildings and properties, other than securities, belonging to the Association; (c) director, under the Board of Trustees, of all business affairs connected with the annual meetings of the Association.

4. There shall be an Editor-in-Chief who shall be (a) the Editor of the Journal of the American Medical Association whose function shall be especially defined and limited to (b) the literary revision of all papers and discussion certified for publication by the sections of the Association; (c) the review and acceptance of original contributions not offered through the section; (d) the Editorial support of all matters of polity endorsed either by the House of Delegates or by the

Council of Polity; (e) and such other duties as usually pertains to the duties of editors including (f) the selection and appointment of the editors of other periodicals owned and published by the Association.

5. There shall be a Council on Polity, which shall be one of the standing committees of the Association, whose duty shall be (a) to enforce all matters of polity adopted by the House of Delegates, (b) to consider and adopt, ab-initio, all questions of polity affecting the medical profession that may arise when the House of Delegates is not in session; (c) to transmit the conclusions of the House of Delegates and its own conclusions on matters of polity to the Editor-in-Chief upon whom such conclusions shall be mandatory.

6. The declaration reaffirming that the Journal of the American Medical Association is the property of the Association and that, as such, it shall at all times be open for the respectful and constructive discussion of the affairs of the Association by its members.

Resolved: That a copy of these resolutions with request for publication be sent to the Journal of the Kansas Medical Society and the Washington County Medical Association of Marietta, Ohio.

J. B. SMYTHE, President.

C. A. WYATT, Secretary.

Dr. J. B. Smythe read a paper on Eclampsia, after which the subject was discussed freely by those present.

Members present were: Drs. T. M. Greenwood, M. S. McGrew, C. W. Reynolds, J. B. Smythe, E. W. Reed, C. A. Wyatt.

Adjourned to meet at Holton, Kansas, at Court House, Friday evening, March 23rd, 1923.

C. A. WYATT, Secretary.

WILSON COUNTY SOCIETY

The Wilson County Medical Society met at the Hospital at Neodesha Tuesday evening, February 13, supper at 6:30 p. m.

While waiting for Dr. Bohan, the speaker for the evening, Dr. Smith of Independence talked about drainage of the sinuses, the predominant note being "secure drainage." Look for pus running down over the inferior turbinate—this will be from ethmoid or antrum. If it runs into throat will be from sphenoid sinus.

Dr. DeMott of Independence then discussed fractures, laying stress on three things as absolutely necessary, viz., x-ray, anesthetic and a good nurse. Told of two malpractice suits in two years in Montgomery County, both cases being lost to the tune of two thousand dollars each. Uses kangaroo tendon for most

being lost to the tune of two thousand dollars each. Uses kangaroo tendon for most bone work.

Dr. Bohan having arrived at 10:35 p. m., it was decided by a close vote to hear about both ulcer of stomach and pernicious anemia. Surgeons and internists absolutely disagree regarding healing of ulcers—such men as Deaver saying it (healing) don't happen under medical treatment, but the speaker tells of many cases, proving that ulcers do heal. But internists disagree on medical treatment. It seems best, however, to put them to bed and give milk and alkalis. A case was reported occurring in the speakers clinic, in which the pus from an infected tonsil in a gastric ulcer case was injected into a rabbit and in 48 hours the rabbit developed gastric ulcer. The infectious nature of gastric ulcer is proven and the focus of infection is from the "neck up." Next the speaker discussed pernicious anemia, a rare disease but 6000 cases die annually in the United States. Blood picture typical, and sore tongue, achylia gastrica always present, much diarrhoea, heart murmurs and swelling of feet. Causes unknown. Treatment by splenectomy, transfusions and 606 all condemned. The only thing of service is hydrochloric acid, huge doses and repeated 2 or 3 times after each meal. Dr. Bohan closed his remarks at 11:45 p. m. to catch train. It was a tribute to him that no one left the hall or showed signs of impatience at this late hour.

The March meeting of the society was held at Fredonia March 13th, and after supper met at Dr. Flack's office. Dr. Thomas talked of x-ray in medicine. Spoke of improvement in machines last two years. Told of the German habit of extremely high voltage and for six hours, the idea being to destroy the pathologic tissue at one treatment. These patients must be hospitalized. The idea has not met with universal approval in the United States.

Three effects from application of the x-rays: 1st, light dose, is stimulating; 2d, larger dose is inhibitory; 3d, massive dose is destructive.

Pathological tissue is from 3 to 8 times more easily affected than normal tissue. However, can't give more dosage than skin will stand.

Dr. J. A. Butin discussed treatment of puerperal sepsis, dividing treatment in to prophylactic and curative. Under prophylactic. Avoid traumatism along route traveled by baby. Make no vaginal examinations—make rectal. Avoid hurrying second stage, meaning bag, pituitrin, instruments for trivial reasons, manual dilatation, etc. Wait for

physiological third stage. Curative: Elevate head of bed, rest, tonics, perhaps quinine, antistreptococci serum, sunshine, fresh air, good nutritious food, avoiding much fats. No douches or intrauterine interference. Much interest shown in this subject by everyone present.

Dr. E. C. Duncan elected delegate and Dr. J. W. McGuire alternate to State meeting in May.

E. C. DUNCAN, Secretary.

SUMNER COUNTY SOCIETY

Regular meeting of Sumner County Medical Society was held on the evening of March 1, 1923, at the Park House.

Dr. L. H. Sarchet, Vice President, presiding; A. R. Hatcher, Secretary protem. Minutes of the last regular meeting were read and approved. Application of Dr. Frank Kerr of Perth, Kansas, having been approved by the censors, was voted upon and the applicant elected to membership by the Society. Application of Dr. McKeehan, practicing at Hunnewell, Kansas, but residing in Oklahoma, was not approved by the Board of Censors and Society voted to refer application back to Secretary with instructions to notify Dr. McKeehan that on account of his residence being in Oklahoma that the Society could not legally admit him to membership. It was voted by the Society that Dr. Karl Menninger of Topeka, be invited as a guest of the Sumner County Medical Society and to give a paper at the Tri-County Medical Society to be held in Blackwell sometime in April. That some member of Sumner County Medical Society should be appointed to represent the Society with a paper also at this meeting.

Election of Officers. Regular process: Dr. Hetherington of Mayfield, elected President; Dr. VanDeventer of Wellington, elected Vice President; Dr. Jamieson of Wellington, elected Secretary, with salary of \$100 per year, motioned by Dr. Hatcher on account of his long and faithful service and the best man for the office. Dr. F. G. Emerson of Wellington, elected Censor. Dr. McIlhenny, delegate to State Medical Society Meeting in Kansas City, Kansas, in May. Dr. Hatcher, Alternate.

The Society then listened to a very interesting paper and lantern slide demonstration on Diabetes by Dr. C. F. Menninger, of Topeka, which was freely discussed. Members attending: Drs. Sarchet, VanDeventer, Emerson, Vincent, Cobean, Werndorff, McIlhenny, Hatcher.

SUMNER COUNTY SOCIETY

The regular monthly meeting of the Sumner County Medical Society was convened at 7:30 p. m., March 29th, at the Park House in Wellington. The following members were present: Drs. Axtell and Wilcox of Argonia, Drs. Evans and McIlhenny of Conway Springs, Dr. Thompson of Oxford, Dr. Burgess of Peck, Dr. Kerr of Perth, Dr. Hetherington of Mayfield, and Drs. Werndorff, Shultz, Sarchet, Cobean and Neel of Wellington. Dr. Morton of Milan and Dr. Calene of the Hatcher Clinic, Wellington, were guests of the Society.

After the reading of the Secretary's report of the meeting held the previous month, the following items of business were transacted:

(a) Dr. A. R. Hatcher was elected as a delegate from Sumner county, to present a paper at the Tri-County Medical Association meeting to be held in Blackwell, Oklahoma, in April.

(b) It was the sense of the meeting that an occasional society dinner was a splendid means of bringing the men together and promoting the fraternal interests and better welfare of the Society. It was therefore voted that a good dinner be provided on the evening of the last meeting of each quarter, and that doctors' wives be invited to attend it. Music will also be provided to add to the pleasantness of the occasion.

The following was the program of the evening:

1. Dr. A. J. Hetherington, of Mayfield, presented a paper on "The County Medical Society." The paper covered the essential features of society work, its advantages, privileges and benefits. The fundamental principles upon which successful society activities depend and plans for profitable sessions were outlined.

The following is a summary of the essentials for a profitable medical meeting.

1. Be present at the meeting.
2. Come on time. The opening of the meeting will then not need be delayed.
3. Take an active part in the meeting by presenting a paper, bringing in clinical cases and trying medical problems, and by taking part in the discussions.
4. A good program must be provided. Be sure to be present and participate when an appointment on the program has been accepted.
5. Appropriate social features provided.
6. Good, brief reports of every meeting, giving abstracts of papers read and their discussion, and making mention of clinical cases and other matters of interest to be prepared for publication in the State Journal.

Society work, like the personal life, will be what we see fit to make it. What is worth doing at all will be worth doing well. The past is of value as it encourages and inspires for better future endeavor. The county society will become highly profitable when there is whole-hearted co-operation from all and each one is willing to do his bit.

Dr. Burgess of Peck opened the discussion of the paper.

(2) Dr. M. T. Axtell of Argonia, presented a most interesting and timely paper on "The After Effects of Influenza." It covered the subject well and commented on many of the important sequelae which the flu leaves to cripple and hamper the body more or less indefinitely. It is stated by some that an attack of influenza never leaves the body as strong and vigorous as it was before the invasion. The list of sequelae is a long one. A few of the more serious affections include respiratory, heart, kidney, middle ear, gastrointestinal and nerve involvement.

Dr. Thompson of Oxford opened the discussion. The interest created by the paper was such that practically every one present took part in the discussion. Many experiences resulting from the influenza epidemic so recently active among us were related.

The majority of the Sumner County men are planning to attend the session of the Tri-County meeting next month. Since the date of that meeting is so near to that of our county meeting, there will be no session of the Sumner County Society in April.

DEATHS

J. McLean Moulder, Kansas City, died March 4, 1923, aged 67. He graduated from the Medical College of Ohio, Cincinnati, in 1875. He was a member of the Kansas Medical Society, formerly superintendent of the Methodist Hospital, Indianapolis, and superintendent of the Bethany Hospital, Kansas City, Kansas, at the time of his death.

John Silas Bass, Iola, died March 4, 1923, of pneumonia, aged 72. He was graduated from the Meharry Medical College, Nashville, Tenn., in 1878.

The Standardization of Epinephrin

Although epinephrin has been accurately depicted in terms of atomic composition, the chemical formula having been announced in 1901 by Aldrich, it seems that the therapeutic value of the product is not measureable by chemical means. The epinephrin molecule may be there, whether the epinephrin itself

measures up to physiologic standards or not. This has been explained by the fact that epinephrin may be either wholly levorotatory, as in the natural state, or partially dextrorotatory, and that in so far as it is dextrorotatory it is physiologically inactive. While it is possible to separate the two kinds of epinephrin molecules in a mixture of both, the best plan is to apply a physiologic test and, following this, to standardize by the required concentration or dilution.

Adrenalin, the original epinephrin preparation, has always been standardized in this way. The test is what is known as the pressor test, and the test animals are anesthetized dogs. The adrenalin is administered intravenously in very weak dilution, and the effect upon the blood pressure is recorded on a revolving drum by means of a needle-tipped rubber tube connected with the carotid artery of the dog.

These details have been published in our advertising section by Parke, Davis & Co., who promise to supply other information, of a clinical nature, to inquiring physicians.

Kansas City Clinics

The Kansas City Clinical Society has been organized among the clinicians of Greater Kansas City for the purpose of encouraging, developing, organizing and presenting the educational advantages of the clinical material in Greater Kansas City to the profession of the Southwest. An announcement of their efforts will be found upon another page in this issue.

The Kansas City Clinical Society has two distinct features in its program. First, they are going to publish a daily list of the clinics at the various hospitals in Kansas City, so that visiting physicians can secure this list the evening before, or early in the morning of the same day and make their choice of the clinics or laboratories that they would like to visit. Similar listings have been in operation in Chicago, New York, Philadelphia and St. Louis for some years.

The second part of their program consists of a well organized fall clinic which will be held at Convention Hall in Kansas City, Missouri, from October 15th to 20th, 1923. The Society has invited a number of eminent clinicians of international reputation who will present some aspects of their specialties before the guests at Convention Hall. It is anticipated that there will be at least 1500 to 2000 physicians in attendance at these fall clinics. Kansas City is making wonderful efforts to provide for their entertainment during the time that they are enjoying this brief period of intensive post-graduate study.

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Gold and Mastic Reaction.

H. A. LINDSAY, M.D., Topeka.

Read at Annual Meeting of the Kansas Medical Society, Topeka, May 3 and 4, 1922.

INTRODUCTION

The tests made in this work were performed in order to determine whether there was any relationship between the two colloidal reactions in certain syphilitic spinal fluids. The cell counts, Colloidal Gold, Colloidal Mastic and Globulin tests were carried out at the Topeka State Hospital and the reagents were also made in the same institution.

The Wassermanns on the blood and spinal fluid were made in the State Board of Health Laboratory at Washburn College, Topeka.

The value of Lange's Colloidal Gold Test, introduced in 1912, is well established and needs no comment here.

The original Mastic Test has been modified many times and has proven a valuable one in many ways, but as far as we have been able to determine it has not been developed to a usable degree as a true comparative agent.

Our modification of the test approaches nearer to a dependable comparative reagent than any other which has been brought to our attention.

"Colloid solutions are of two kinds, emulsoids and suspensoids and according to their chemical composition belong in the amino-acid group."*

It is not practical to here discuss the various conditions which tend to cause precipitation of these substances, but the reaction may be explained satisfactorily on the theory that the dissolved part of the colloid is due to the fact that it carries an electrical charge which when removed by contact with another substance causes aggregation.

The value of the mastic test seems therefore to depend upon something in the spinal fluid

which liberates the colloid material held in suspension, thus causing aggregation.

The practical value of the test lies in the fact that it is easily and quickly made and also in its evident constant response in a limited class of spinal fluids.

The gold test on the other hand, while very responsive and having a wider range of applicability, is difficult to make except at the hand of an expert.

FORMULAE

It will be seen from the following that the method of making the Mastic Solution and Emulsion is very simple and the technic used is identical with the gold sol. test.

Solution Gum Mastic.

This is made after the original method of cutting:

Gum mastic in clear tears	gms.	10.00
Absolute alcohol	c. c.	100.00

The solution is made by occasional agitation during several days, filtering and re-filtering until the filtrate is clear. Result, a clear, amber colored fluid. To be kept in small amber colored glass stoppered bottles of small size.

Emulsion Mastic.

Solution gum mastic	c. c.	1.00
Absolute alcohol	c. c.	9.00
Triple distilled water	c. c.	40.00

The solution of the gum mastic is added to the alcohol, and then the water is quickly added while agitating. This emulsion should be freshly made before using.

Alkaline-saline Solution.

Sodium chlorid C. P.	gms.	1.25
Triple distilled water q. s.	c. c.	100.00

To 99 c. c. of this solution is added 1 c. c. of the following:

Potassium carbonate C. P.	gms.	0.50
Triple distilled water q. s.	c. c.	100.00

*Cole: Practical Physiological Chemistry, 1920 ed.

Technic of Mastic Test.

Ten Wassermann tubes are placed in a suitable rack in the same manner as for the gold test.

The tubes should have been previously cleaned and sterilized the same as for the gold test, i. e. boiled, washed with soap and water and placed in a solution of pot. bichromate in sulphuric acid for at least one-half hour, washed with plain water, rinsed with alcohol, then distilled water, and finally with triple distilled water which has been prepared in a glass still. The tubes are then dried in a drying oven.

1.5 c. c. of alkaline-saline solution is then placed in the first tube and 1 c. c. of the same solution is placed in each of the other nine tubes.

0.5 c. c. spinal fluid to be examined is added to the first tube by means of a suitable pipette.

1 c. c. of this is added, after mixing, to the second tube, and so on to the ninth tube.

1 c. c. from the ninth tube is discarded, leaving the tenth tube undisturbed.

10 c. c. of mastic emulsion is added to 40 c.c. of saline solution and 5 c. c. of this is placed in each of the ten tubes.

The last tube is used as a check on the other tubes.

The result is read in 12 to 24 hours.

Interpretation.

Full precipitate clear is read 5.

$\frac{1}{2}$ precipitate is read 4.

1-3 precipitate is read 3.

Very slight precipitate is read 2.

Loss of opalescence is read 1.

No loss of opalescence is read 0.

NOTES ON TABLES.

One hundred readings of spinal fluids were made in one hundred cases.

Table 1 shows readings in thirty-five different fluids of paretics without treatment. All, or 100 per cent. show fairly uniform reaction curves in both gold and mastic tests. There is also a high cell count, positive globulin, positive spinal fluid Wassermann and positive blood Wassermann in each case.

Table 2 shows readings in eighteen different fluids of paretics without treatment. The mastic curves are fairly characteristic. In

each case there was a high cell count, positive globulin, positive spinal fluid Wassermann and positive blood Wassermann, 100 per cent positive.

gold test was not made in these cases, but the

Table 3 shows eight cases of paresis after treatment. The gold was not made on two of these, but the mastic was made on all. Both gold and mastic curves indicate a modification of the typical paretic curve without treatment. The cell content was diminished in each case. The globulin was diminished also and the Wassermann on blood and spinal fluid was modified.

Table 4 shows ten readings in nine cases of cerebral syphilis. Colloidal gold reactions were obtained in eight readings and colloidal mastic in ten readings. The cell content was variable, the highest being sixteen, three showing two cells, two showing one cell and three showing no cells. The globulin test was negative in six readings, doubtful in three readings and positive in one reading. The spinal fluid Wassermann was negative in seven readings, positive in two and doubtful in one. The blood Wassermann was also negative in seven readings, positive in two and doubtful in one. The treatment in these cases is unknown, but pot. iodide was given in one case.

Table 5 shows two cases of encephalitis after the disease had been in progress for some time. Both cases gave a negative gold and mastic reaction, negative cells, negative globulin and negative Wassermann on both spinal fluid and blood.

Table 6 shows twenty-seven cases of gold and mastic reactions in various nervous and mental diseases. A case of uremia gave negative results throughout. Three cases of dementia praecox, katatonic type, gave negative readings throughout except that one had a positive blood Wassermann. Five cases of dementia praecox, paranoid type, gave negative results throughout except one which showed 12 cells, another a positive spinal fluid Wassermann with a doubtful blood Wassermann. One case of paranoid condition showed negative results throughout. One case of manic depressive, alternating type, was negative throughout. Two cases of manic

depressive, depressed type, was negative throughout, except a gold reaction as follows: 000004332. One case of manic depressive, manic type, was negative throughout except that it showed ten cells. One case of involu-

tion melancholia was negative throughout except a positive blood Wassermann. One case of brain tumor was negative throughout, and ten cases of epilepsy were also negative throughout.

TABLE 1—GOLD AND MASTIC—PARETIC CURVE

Case No.	Diagnosis	Gold Sol.	Mastic	Cells	Glob.	Sp. Fl. Wass.	Bld. Wass.	Treat.
11402	Paresis	444443000	555443000	109	4+	4+	4+	None
11326	Paresis	555540000	555540000	116	4+	4+	4+	None
11326	Paresis	555554411	555540000	109	4+	4+	4+	None
11325	Paresis	555554432	555554432	69	4+	4+	4+	None
11318	Paresis	555555432	555554432	33	4+	4+	4+	None
11312	Paresis	555544443	555554332	15	4+	4+	4+	None
11286	Paresis	555555443	555555442	53	4+	4+	4+	None
11288	Paresis	444442100	443321000	22	3+	4+	4+	None
11290	Paresis	555554300	555543200	51	4+	4+	4+	None
11261	Paresis	444333300	433000000	26	4+	4+	4+	None
11268	Paresis	555554322	555400000	14	4+	4+	4+	None
10880	Paresis	555553300	555555432	16	4+	4+	4+	None
11214	Paresis	555540000	555555431	34	4+	4+	4+	None
11148	Paresis	555555411	555543200	35	4+	4+	4+	None
9862	Paresis	555543300	555554431	74	4+	4+	4+	None
11164	Paresis	555432100	555555432	23	4+	4+	4+	None
11061	Paresis	555544432	554322211	19	4+	4+	4+	None
11129	Paresis	555554430	555543211	36	4+	4+	4+	None
11135	Paresis	555543210	555542100	56	4+	4+	4+	None
11137	Paresis	555543200	555543220	11	4+	4+	4+	None
11260	Paresis	555543200	555554310	12	4+	4+	4+	None
11211	Paresis	555553200	555555442	46	4+	4+	4+	None
11162	Paresis	555555543	554444300	96	4+	4+	4+	None
11098	Paresis	555554442	555543332	35	4+	3+	4+	None
9849	Paresis	555554320	555555442	127	4+	4+	4+	None
11137	Paresis	554444320	555432210	40	4+	4+	4+	None
11394	Paresis	555542100	555510000	58	4+	4+	4+	None
11363	Paresis	555543210	555554200	70	4+	4+	4+	None
11103	Paresis	555543200	555442000	14	4+	4+	4+	None
11105	Paresis	555544321	555555555	13	4+	4+	4+	None
H	Paresis	555555420	555555300	302	4+	4+	4+	None
11086	Paresis	555553300	555554321	15	4+	4+	4+	None
11417	Paresis	555543200	555444200	4	4+	4+	4+	None
11422	Paresis	555543300	555554400	49	4+	4+	4+	None
11429	Paresis	333332100	443100000	20	4+	4+	4+	None

TABLE 2—MASTIC CURVE ONLY—PARESIS

Case No.	Diagnosis	Gold. Sol.	Mastic	Cells	Glob.	Sp. Fl. Wass.	Bld. Wass.	Treat.
11222	Paresis	Test not made	555555432	8	4+	Pos.	Pos.	None
10136	Paresis	Test not made	555443210	24	4+	Pos.	Pos.	None
11007	Paresis	Test not made	555433200	8	4+	Pos.	Pos.	None
C	Paresis	Test not made	444000000	37	3+	Pos.	Pos.	None
11085	Paresis	Test not made	554300000	24	4+	Pos.	Pos.	None
11052	Paresis	Test not made	554320000	13	4+	Pos.	Pos.	None
11075	Paresis	Test not made	555320000	108	3+	Pos.	Pos.	None
P62	Paresis	Test not made	555443000	34	4+	Pos.	Pos.	None
S64	Paresis	Test not made	222000000	33	4+	Pos.	Pos.	None
10927	Paresis	Test not made	554320000	10	4+	Pos.	Pos.	None
10900	Paresis	Test not made	554322000	20	4+	Pos.	Pos.	None
10917	Paresis	Test not made	555432000	27	4+	Pos.	Pos.	None
10680	Paresis	Test not made	443200000	73	3+	Pos.	Pos.	None
11007	Paresis	Test not made	555432000	57	4+	Pos.	Pos.	None
10937	Paresis	Test not made	555554000	134	4+	Pos.	Pos.	None
11350	Paresis	Test not made	555320000	137	4+	Pos.	Pos.	None
32	Paresis	Test not made	321000000	8	3+	Pos.	Pos.	None
11001	Paresis	Test not made	555400000	67	2+	Pos.	Pos.	None

18 Cases.

TABLE 3—GOLD AND MASTIC—PARESIS. AFTER TREATMENT

Case No.	Diagnosis	Gold Sol.	Mastic	Cells	Glob.	Sp. Fl. Wass.	Bld. Wass.	Treat.
11306	Paresis	111110000	444320000	7	2	Pos.	Dtfl.	Unknown
10716	Paresis	444400000	111000000	7	1	Pos.	Dtfl.	Unknown
11156	Paresis	123432000	023432110	17	3	Pos.	Pos.	Unknown
10892	Paresis		320000000	6	1	Pos.	Pos.	Unknown
10609	Paresis		555300000	46	1	Pos.	Neg.	Unknown
11268	Paresis	555532200	555443200	17	3			8S & 10M
11312	Paresis	112221000	440000000	2	2			8S & 10M
11068	Paresis	000432200	443000000	2	2			18S & 18M

TABLE 4—GOLD AND MASTIC—CEREBRAL SYPHILIS

Case No.	Diagnosis	Gold Sol.	Mastic	Cells	Glob.	Sp. Fl. Wass.	Bld. Wass.	Treat.
S. Y.	Cer. Syph.	001221100	000000000	0	Neg.	Neg.	Neg.	Unknown
11338	Cer. Syph.	000445444	410000000	1	Neg.	Neg.	Neg.	K. I.
11338	Cer. Syph.	004444444	410000000	2	Neg.	Neg.	Neg.	K. I.
11128	Cer. Syph.	233200000	145543110	16	4	Pos.	Pos.	Unknown
X	Cer. Syph.	112221000	442000000	15	2	Pos.	Pos.	Unknown
M. S.	Hered. Syph	000145544	100000000	1	Neg.	Dtfl.	Neg.	Unknown
F. L.	Hered. Syph.	000444430	100000000	2	Neg.	Neg.	Dtfl.	Unknown
L. M. S.	Hemiplegia		110000000	0	2	Neg.	Neg.	Unknown
S. H.	Hemiplegia		110000000	0	2	Neg.	Neg.	Unknown
11254	Hemiplegia	000000000	343211000	2	Neg.	Neg.	Neg.	Unknown

TABLE 5—GOLD AND MASTIC—ENCEPHALITIS

Case No.	Diagnosis	Gold Sol.	Mastic	Cells	Glob.	Sp. Fl. Wass.	Bld. Wass.
M. T.	Enceph.	000000000	000000000	1	Neg.	Neg.	Neg.
X.	Enceph.		000000000	1	Neg.	Neg.	Neg.

TABLE 6—GOLD AND MASTIC—VARIOUS NERVOUS AND MENTAL DISEASES

Case	Disease	Gold. Sol.	Mastic	Cells	Glob.	Sp. Fl. Wass.	Bld. Wass.
R.	Uremia	000000000	000000000	0	Neg.		
M. W.	Dem. P. Kat.		000000000	2	1+	Neg.	Neg.
J. G.	Dem. P. Kat.	000000000	000000000	0	1+	Neg.	Neg.
M. A.	Dem. P. Kat.	000000000	000000000	1	Neg.	Neg.	
O. M.	Dem. P. Par.	000111000	000000000	5	Neg.	Neg.	Neg.
G. W.	Dem. P. Par.	000000000	000000000	3	Neg.	Neg.	Neg.
H. L. H.	Dem. P. Par.	000000000	000000000	5	Neg.	Pos.	Dtfl.
C. F.	Dem. P. Par.	000000000	000000000	12	Neg.	Neg.	Neg.
A. K.	Dem. P. Par.	000000000	000000000	1	Neg.	Neg.	Neg.
J. D.	Par. Cond.		000000000	1	Neg.	Neg.	Neg.
H. E.	Dem. P. Heb.	000000000	000000000	2	Neg.	Neg.	Neg.
I. V.	Man. D. Alt.	000000000	000000000	0	Neg.	Neg.	Neg.
F. W.	Man. D. Dep.	000000000	000000000	4	Neg.	Neg.	Neg.
J. M. C.	Man. D. Dep.	000004332	000000000	1	2+	Neg.	Neg.
A. B.	Man. D. Man.		000000000	10	Neg.	Neg.	Neg.
F. F. F.	Inv. Mel.	000000000	000000000	0	Neg.	Neg.	Pos.
K.	Brain Tum.		000000000	1	Neg.	Neg.	Neg.
L. D.	Epilepsy	000000000	000000000	0	Neg.	Neg.	Neg.
F. T.	Epilepsy		000000000	4	Neg.	Neg.	Neg.
V. A.	Epilepsy		000000000	3	Neg.	Neg.	Neg.
J. W.	Epilepsy		000000000	1	Neg.	Neg.	Neg.
F. W.	Epilepsy		000000000	0	Neg.	Neg.	Neg.
G. R.	Epilepsy		000000000	0	Neg.	Neg.	Neg.
F. T.	Epilepsy		000000000	0	Neg.	Neg.	Neg.
M. C.	Epilepsy	000000000	000000000	0	Neg.	Neg.	Neg.
L.	Epilepsy	000000000	000000000	0	2+	Neg.	Neg.
D. Mc.	Epilepsy		000000000	0	Neg.	Neg.	Neg.
27 Cases							

CONCLUSIONS

It may be noted that in known cases of general paralysis without treatment, the gold and mastic curves are both quite uniformly

typical showing the relationship of mastic and gold in this particular instance.

When the mastic test was made alone in known cases of general paralysis who had no

treatment, the curves were also quite typical as indicated in Table 2.

There was a departure from the typical gold and mastic curve in cases of treated paresis in most instances, and incidentally the cell content, globulin, and Wassermann were modified.

In cerebral syphilis the mastic shows a high curve usually in the beginning as in paresis, while the gold shows a curve in the middle.

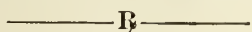
The gold and mastic tests are alike in our non-syphilitic mental and nervous diseases in showing no reaction whatever.

The mastic test is a valuable check test in connection with the gold reaction in general paralysis and in allied syphilitic brain and cord conditions.

In these conditions it is a good test to make because of its simplicity, and in connection with the other tests usually made along with the gold sol. it may take the place of the latter reagent with advantage, when used according to our modification.

I desire to express my appreciation of the co-operation and assistance of the Hospital Medical Staff whose efforts have contributed largely to the success of this work.

Credit is also due the State Board of Health Laboratory for making the Wassermann tests in all of these cases.



The Insulin Treatment of Diabetes Mellitus

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Read at the regular monthly meeting of the Shawnee County Medical Society, March 5, 1923.

In 1889 Bernhard Naunyn, the celebrated Strassburg physician, visited his colleagues Mering and Minkowsky at their clinic in Breslau. On the way to the laboratory one day he noticed a group of dogs in the court yard. Among these dogs were several whose pancreas had been removed in the course of some metabolic experiments.

The sharp eye of Naunyn noted at once a swarm of flies on the floor of the court yard. "Have you tested the urine of these dogs for sugar?" he asked. "No," they answered. "Well," said Naunyn, "do it. For where these dogs pass urine, the flies settle."

Mering and Minkowsky tested the urine for sugar and found it present in large quantities. Furthermore they found diacetic acid and acetone present in this urine and later observations showed that these dogs died in diabetic coma. Thus, the chance observation of Naunyn led to the epoch-making discovery that complete removal of the pancreas is followed by a severe, inexorably progressing and invariably fatal, diabetes.

This one conclusive experiment overturned the venerable theory of Galen, persisting from the second century, that diabetes is a weakness of the kidneys—that is, an inability to hold back water. The theory of Richard Mead that it is a disease of the liver was overthrown and Rolles idea that diabetes is a "primary and peculiar affection of the stomach," was relegated to the scrap heap.

This discovery of Mering and Minkowsky gave to the medical world an entirely new vision, since it showed that diabetes mellitus is a disease of the pancreas just as much as Bright's disease is a disease of the kidneys, or apoplexy is a disease of the brain.

Having established then, the fact that the presence of the pancreas is necessary for normal carbohydrate metabolism, the next obvious step was to study the pancreas closer from the standpoint of physiology and pathology. The next link in the chain was supplied by the discovery of Opie that in three cases of fatal diabetes mellitus, the pancreas showed extensive hyaline degeneration of the Islands of Langerhans.

Ssobolew observed independently hyaline degeneration of the islands of Langerhans in diabetes mellitus. The sensation produced in the scientific world by these observations was nearly as great as that produced by Mering and Minkowsky's discovery of pancreatic diabetes. Here we had a very definite and striking demonstration of the role played in human diabetes, not only by the pancreas, but by a specialized structure in the pancreas. Opie's observations immediately took first rank as one of the pillars of endocrine orthodoxy.

Opie's pathological observations were supported by the experimental work of MacCallum, who showed that while complete removal

of the pancreas produced a fatal diabetes in dogs, ligation of the pancreatic duct, although it caused atrophy and fibrosis of the pancreas did not destroy the islands of Langerhans and no diabetes resulted.

All investigations, however, on the pathological anatomy of the pancreas in diabetes mellitus did not agree with Opie's observations. Pathologists all over the world studied and restudied microscopic sections of diabetic pancreas, and found hyaline degeneration of the islands in only a very few cases. The publication of these results made the whole hypothesis of the insular theory of diabetes rather shaky for a time. This skepticism is reflected in the literature of those years which contain accounts of diabetes of "hepatic origin" of "adrenal origin" and of "thyroid origin." Even so great an authority as Van Noorden doubted that diabetes is necessarily a pancreatic disease.

Pathological studies of the pancreas failing to show many diseased islands, investigators then turned their attention to other changes in the pancreas and many publications upon this subject appeared. Cecil's article calling attention to interacinar fibrosis of the pancreas in diabetes, has been extensively quoted, particularly his statement that 80 per cent of diabetics show lesions in the pancreas at autopsy.

In 1914 I published a pathological study of the pancreas in 13 diabetic and 35 non-diabetic necropsies, and found the changes described by Cecil to be as common in non-diabetic as in diabetic cases. I have had no reason from autopsy experience or conversation with others since that time to alter my view in the least, that at present we have no criteria by which, except in occasional instances, a diabetic can be differentiated from a non-diabetic pancreas. Later refinements of technique might make this possible.

However, in spite of our inability to make an anatomico-pathological diagnosis of diabetes, there is every evidence of its pancreatic origin, and the evidence is steadily accumulating. Fine as our histological technique may seem to us now, it is probably very crude after all, and as long as the pathological anatomist can not tell whether a brain section is from

the cerebrum of a genius or of an idiot, perhaps we should not expect too much from his examination of the pancreas.

The crucial experiment of Mering and Minkowsky proving that removal of the pancreas produces diabetes, suggested at once that human diabetes is due to a pancreatic deficiency which might be made up by supplying additional pancreas, such as the eating of raw pancreas. Such curative attempts over a period of thirty years have uniformly failed in both animals and man. Allen gave this treatment a trial under carefully controlled conditions at the Rockefeller Institute and wrote "the experiments with feeding fresh pancreas confirm the accepted view that it possesses no value in diabetic treatment."

With this failure of all attempts at specific therapy, the treatment of diabetes developed entirely along the lines of dieto-therapy and thanks to the labors of Allen and Joslin, progress has been rather rapid and satisfactory.

The announcement from Toronto however, that Banting and his co-workers had succeeded in isolating an active extract from the islands of Langerhans which was of value in diabetes mellitus, has introduced a new era in the treatment of the disease. As Allen remarks "the discovery of an effective non-toxic pancreatic extract is literally epoch-making."

Dr. F. G. Banting first conceived the idea of preparing a potent extract from the pancreas and gives an interesting account of his work in an article which he had published in 1922.

Banting wrote: "The hypothesis underlying this series of experiments was first formulated in Nov. 1920, while reading an article dealing with the relation of the isles of Langerhans to diabetes. From the passage in this article, which gives a resume of degenerative changes in the acini of the pancreas following ligation of the ducts, the idea presented itself that since the acinous, but not the islet tissue, degenerates after this operation, advantage might be taken of this fact, to prepare an active extract of islet tissue. The subsidiary hypothesis was that trypsinogen or its derivatives, was antagonistic to the in-

ternal secretion of the gland. The failures of other investigators in this much worked field were thus accounted for."

In Bantings first experiments the pancreatic ducts of a dog were ligated and after ten weeks the animal was killed and the atrophied pancreas extracted with Ringer's solution. This extract was found to lower markedly the blood sugar of a dog previously rendered diabetic by extirpation of the pancreas. Many subsequent experiments confirmed the striking effect of this extract which they named *insulin* and which they believe represents the active principle of the islands of Langerhans. Back in 1909 Ibrahim noted that there was no proteolytic ferment in the pancreas of the human fetus until after the fourth month of intrauterine life. Taking advantage of this observation Banting and his co-workers made an extract from the fetal calf pancreas of under five months development and found it did not contain pancreatic juice but did contain internal secretion. This discovery opened up a new era in the insulin therapy since it greatly simplified the method of preparation and greatly increased the available supply.

The pancreas was macerated in 95 per cent alcohol and after standing for 12 hours the fluid was filtered, evaporated to dryness, and then re-dissolved in salt solution. The solution was then injected subcutaneously into a diabetic dog with the result that the blood sugar fell from 350 mg. per 100 cc. to 80 mg. in three hours, and the urine became sugar free.

The method of preparing the insulin was further refined by Dr. Collip and a very potent soluble protein-free extract was obtained. This is the product now used clinically which has been called *Iletin* in the United States. This *iletin* must be administered subcutaneously since it is apparently destroyed in the digestive tract.

This preparation is standardized by injecting it into rabbits, one unit being the amount that will lower the blood sugar to 45 mg. per 100 cc. within four hours. When doses sufficient to produce this lowering of the rabbits blood sugar are given, the animal has convulsions which are however, relieved in a few

minutes by a subcutaneous injection of glucose. This observation has a very important clinical bearing, since patients if given too large a dose of insulin may have convulsions, which can often be relieved by injections of glucose or adrenalin.

Careful metabolic studies indicate that one unit will take care of from one and one-half to two gms. of carbohydrate, occasionally as much as four gm. in the diet.

Insulin has been tried extensively in numerous clinics in Canada and in the United States during the past year. The reports are thus far very encouraging. A recent article by Banting summarizes his experience and that of his co-workers.

Banting states that up to the present time they have treated fifty cases of diabetes mellitus with uniformly good results. Glycosuria is abolished, ketones disappear from the urine and blood, the blood sugar is lowered and maintained at a normal level, the alkali reserve returns to normal and the cardinal symptoms are relieved. Banting also makes the somewhat startling statement that insulin is a specific in the treatment of diabetic coma.

Through the courtesy of Toronto University and of Ely Lilly and Company we have received a limited amount of *iletin* which has been used in the treatment of diabetics at the Bell Memorial Hospital. While our experience has been limited to the study of ten cases, We have been convinced of its ability to abolish glycosuria, to lower the blood sugar, to clear up ketonuria and to relieve the cardinal symptoms of the disease.

We have used it in two cases of coma. The first patient died five hours after admission to the Hospital, but was moribund when the first injection was given and was pulseless when first seen.

The second patient was a young man aged 26 who went into coma on February 21, 1923 at seven a. m. He was seen on the afternoon of the same day at four p. m., quite unconscious, head thrown back, presenting typical picture of Kussmauls "air hunger," with a pulse of 140 and blood pressure 75 systolic and 55 diastolic. His blood sugar was 667 mg. per 100 cc. He was given 25 units of *iletin* at four p. m., at eight p. m. at midnight, and on the

following morning at four a. m. At eight a. m. he seemed partially conscious and his blood sugar had dropped from 667 to 294 mg. per 100 cc. He was given 10 units at eight a. m., eleven a. m., and at one p. m. At four p. m., twenty-four hours after the first dose of iletin and after the patient had received 130 units of iletin he was conscious, perfectly rational, talked with his family and his blood sugar was down to 170 mg. per 100 cc. He has continued to improve and we are now working out his tolerance. This is the first patient I have ever seen rescued from diabetic coma. He received no alkali, nothing but 130 units of iletin and 3000 cc. of normal saline solution by hyperdermoclysis.

Two other patients when treatment was instituted were on the verge of coma showing extreme drowsiness, symptoms of air hunger and marked ketonuria. These symptoms promptly disappeared under treatment.

Although our experience with insulin has, as I have emphasized, been limited, I feel that the results warrant at least a presentation at this meeting.

Whether this substance is as valuable in the treatment of diabetes mellitus as is thyroid extract in myxedema, remains to be seen. But surely we must admit that the discovery of any substance that will clear up hyperglycemia, glycosuria and ketonuria, and rescue a patient from coma is epoch making. We have not as yet used it on any diabetics with surgical complications, but there is every evidence that it will rob surgical diabetes of most of its terrors.

The question as to whether insulin after repeated use will raise the carbohydrate tolerance and restore the islands of Langerhans to their normal functioning state, is a pertinent one and as yet unanswered. We do not know whether it will be necessary for these patients to continue taking injections indefinitely.

We all understand how the kidney in advanced chronic nephritis with its glomeruli destroyed, can no longer secrete urine. It may not be too optimistic to hope, that the diabetic pancreas with its intact islands, may be put at rest by this treatment so that these islands after a period of recuperation may

again assume their functions and a normal carbohydrate metabolism result.

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Experiments conducted by the U. S. Bureau of Mines to determine the physiological effects of high temperatures and humidities with and without movement show that the bad effects upon man of almost saturated air with temperature from 90° to 98° are much less if the air is moving than when it is still. But from 98.6° to 100° there was no benefit observed from the air movement and if anything some disadvantage.

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The Practical Value of Blood Chemistry to the Clinician.

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Knowledge concerning the chemistry of the blood is advancing rapidly. The chemical changes taking place in the blood in health and disease are being found of constantly increasing value in diagnosis, prognosis and treatment. It may be said that the development of the micro methods of blood analysis bears as important a relation to the study of disorders of metabolism as the discovery of the causative agent of syphilis has had to the diagnosis and treatment of that disease. We are indebted primarily to American investigators, especially Folin, Van Slyke, Benedict and Myers, for methods by which the important constituents can be accurately estimated in small amounts of blood.

The biological chemist is interested in all phases of blood chemistry. The physician, however, is concerned primarily with the

practical application of blood chemical findings. Analysis of the blood and examination of the urine should go hand in hand. All substances appearing in the urine must come from the blood. Urinalysis tells only what is being excreted, blood analysis reveals what is being retained. Each gives facts which are not obtainable in any other way.

The sugar of the blood is of the greatest interest to the clinician because of the very frequent occurrence of disturbances in carbohydrate metabolism. All carbohydrates consumed by the body are utilized as glucose. The blood sugar is practically entirely in the form of glucose. The primary and essential condition in diabetes mellitus is a hyperglycemia—an increase in the level of sugar in the blood. Glycosuria is a relatively late occurrence in the course of the disease. It is apparent that an early recognition of disturbances in carbohydrate metabolism must depend upon a study of the blood sugar. The treatment of diabetes mellitus with the insulin recently introduced by Banting and Best of Toronto requires frequent observation of the blood sugar. A knowledge of the level of the sugar in the blood also enables us to differentiate the different types of glycosuria.

Normally the blood after a fast of 12-14 hours contains 70-120 milligrams of sugar per 100 c. c. of blood. When the blood sugar of a normal individual rises above 160-180 mg. sugar appears in the urine. This level in the blood above which sugar overflows into the urine is the renal threshold. The ingestion of an abnormal amount of carbohydrate or sugar may elevate the blood sugar above the threshold, producing an alimentary glycosuria. Occasionally individuals are encountered who show sugar in the urine with the blood sugar at the normal level. Such individuals have a lowered threshold due to an abnormally increased permeability of the kidney for glucose. There is no abnormality of carbohydrate assimilation. Sugar simply overflows into the urine because the kidney cannot hold it back. This condition is known as renal diabetes.

In true diabetes mellitus the glycosuria results from a hyperglycemia due to an inability of the body to burn glucose. The level at

which glycosuria occurs varies greatly in different individuals. In early or mild diabetes the blood sugar ranges from 120 to 300 mg. per 100 c. c. In severe cases it may range from 300 to 600 mg. Occasionally cases are seen with a blood sugar as high as 1200 mg. Typical blood sugar findings in the various types of glycosuria are shown in Table I. As a case of diabetes progresses the kidney may become less permeable to glucose, hence a smaller amount will appear in the urine while the blood sugar remains at the same level or even higher. This is due to an elevation of the renal threshold. If such a case were judged from the urine findings alone we might consider it less severe while in fact it has become more serious. The blood sugar in diabetes may be as high as 300 mg. without any sugar appearing in the urine.

Certain patients may have a normal or only slightly elevated blood sugar and still have at times a glycosuria. The ability of such an individual to handle glucose can best be estimated from the result of a glucose tolerance test. The patient is given by mouth 1.5 grams of glucose for each kilo of body weight. The blood sugar is determined and the urine is examined at intervals of one hour for four hours. If the glucose is utilized properly there is no glycosuria, the blood sugar does not rise above 180 mgs. and returns to normal within two hours after the glucose is taken. In true diabetes the blood sugar rises to a much higher level, requires a much longer time to return to normal, and glycosuria develops. The height to which the blood sugar rises, the time required for it to return to normal and the extent of the glycosuria are some indication of the disturbance of carbohydrate metabolism. Typical curves obtained in glucose tolerance tests are shown in Table II.

A knowledge of the blood sugar level in diabetes is of especial importance in surgery. Foster¹ states that of the fatal cases of diabetes beyond the third decade 60 per cent die following operations. He has found that a patient showing a blood sugar above 350 mgs. cannot be expected to survive any serious operative procedure. The blood sugar should be lowered by dieting or by treatment

with insulin before operation. If a blood sugar is not more than twice normal a patient will usually stand operation well.

A blood sugar higher than normal may be found in conditions other than diabetes but it is seldom very high. Nephritis and hyperthyroidism may be mentioned as conditions in which a hyperglycemia may frequently be encountered.

It has long been known that an acidosis is often associated with diabetes and practically always occurs as a terminal event. Coma is due to an acidosis. Normally acids, especially carbonic acid, are formed in the course of body metabolism in large amounts. The acids combine with certain bases in the blood especially sodium. The acids are gotten rid of by the excretion of carbon dioxide in the lungs and by the elimination of certain acid salts through the kidney. In certain diseased conditions abnormal acids are formed and must be neutralized by bases. The store of bases available for such a purpose is known as the alkali reserve. Since carbonate is the principal substance which absorbs acid in the blood, the best index of the body to withstand acids is the amount of carbonates in the blood. The determination is very simply done by the method of Van Slyke. Sulphuric acid is added to a measured amount of blood plasma. From the amount of carbon dioxide given off the alkali in combination with it may be calculated. Normally in adults the alkali in 100 c. c. of blood plasma can combine 50-75 c. c. of CO_2 . In children the normal figures are about 10 c. c. lower. This is known as the CO_2 combining power of the blood plasma. A decrease in the alkali of the blood is indicated by a diminution in the CO_2 combining power. This decrease may be due to an increased formation of abnormal acids such as diacetic acid in diabetes, a retention of acid phosphates by the kidney, a loss of alkali salts through diarrhoea, or to a deficient elimination of carbonic acid by the lungs.

Acidosis in diabetes may be detected much earlier and more accurately from the CO_2 combining power of the blood plasma than from the acetone bodies in the urine. The acetone bodies in the urine are in fact a very

poor index of the alkali reserve. If the CO_2 combining power of the blood plasma is less than 40 an acidosis exists and if it falls below 30 symptoms of acidosis will almost certainly develop. Foster states that no operation should be attempted in diabetes if the CO_2 combining power is below 40. Typical levels of the CO_2 combining power in various stages of acidosis are shown in Table III.

The estimation of the non-protein nitrogen of the blood is of especial interest in renal conditions. The total non-protein nitrogen constitutes about 1 per cent of the total nitrogen of the blood. Normally it consists largely of urea, uric acid and creatinine. An increase in the total non-protein nitrogen of the blood indicates either that such bodies are being formed more rapidly than the kidney can excrete them normally, or that renal function is below normal. A knowledge of the level of the three constituents mentioned gives different information concerning body metabolism or renal function.

Uric acid is soluble with the greatest difficulty, only one part dissolving in 40 parts of water. Urea is more soluble and creatinine is very soluble. The kidney concentrates uric acid 20 times, urea 80 times and creatinine 100 times. The ease with which the kidney eliminates these substances is directly proportional to their solubilities, hence the kidney can excrete creatinine with the greatest ease and the uric acid with the most difficulty. It is apparent from these facts that uric acid will be the first and creatinine the last of the nonprotein bodies to be retained when the excretory capacity of the kidney is impaired.

The non-protein nitrogen is normally 25-35 mgs. per 100 c. c. of blood. It is increased in most cases of chronic diffuse nephritis. Other kidney conditions in which there is often or typically nitrogen retention are bichloride of mercury poisoning, prostatic obstruction, pyonephritis, chronic passive congestion, polycystic kidneys, and some cases of acute glomerular nephritis. The non-protein nitrogen is also increased in toxemias such as intestinal obstruction and lobar pneumonia. Here the increase is due to increased nitrogen

destruction rather than a diminution in kidney permeability. In parenchymatous nephritis it is not increased. In chronic hypertensive vascular disease it remains normal. This fact makes the estimation of the greatest value in differentiating hypertension due to essential vascular disease from that due to primary kidney disease. Typical values for the non-protein nitrogen, urea nitrogen, uric acid and creatinine in various types of kidney and vascular conditions are given in Table IV.

Urea is entirely of endogenous origin being formed by the desamidization in the liver of amino acids set free in the digestion of proteins. The blood normally contains 10 to 15 mgs. of urea nitrogen per 100 c. c. This is equivalent to 22 to 33 milligrams of urea per 100 c. c. The urea nitrogen normally constitutes about 50 per cent of the total non-protein nitrogen. In nitrogen retention due to renal disease the increase is due principally to urea nitrogen. In such cases the urea nitrogen constitutes as high as 90 per cent of the total nitrogen. In the presence of a toxemia causing increased nitrogen destruction, a larger amount of the total non-protein nitrogen is in the undetermined form.

Uric acid is of both endogeneous and exogenous origin. It is formed from the purine bodies contained in nuclear material. The normal amount varies from 1-3 mgs. It is increased in the blood almost uniformly in gout and is thus a valuable diagnostic aid. Since in nitrogen retention due to kidney disease there is also an increase in uric acid, in order that in diagnosis significance may be placed on an increase in gout, it is necessary that kidney disease be eliminated or that the increase in uric acid be out of proportion to the increase in total non-protein nitrogen. An increase in both points to kidney retention rather than a disorder of purine metabolism.

Creatinine is entirely of endogenous origin. It is formed in muscle from creatine. Since creatinine is the body most easily excreted, an increase is undoubtedly of the most clear cut prognostic significance. The creatinine is seldom over 2.5 mgs. in conditions other than renal insufficiency. When it is as high as

5 mg. it indicates a very serious renal involvement and if the condition is chronic it will certainly be fatal. In some acute conditions the creatinine may reach 5 mg. without a fatal outcome. Chronic nephritis, on the other hand, is not uncommonly fatal without there being an increase in creatinine in the blood.

The creatinine level in chronic nephritis is not affected by diet since it is of endogenous origin. Urea, however, is so affected. This is well shown in a series of successive determinations on a patient suffering from chronic nephritis (Table V). On a low protein diet there was a marked fall in total non-protein nitrogen and urea nitrogen. The creatinine continued to rise. It is evident here that the creatinine was of infinitely greater prognostic significance than the other non-protein bodies.

The substances which are the most practical applications are those which have been enumerated. The cholesterol, the fat, the amino acids, the chlorides, phosphates and other inorganic salts and numerous other substances are of the greatest interest to the biological chemist and investigator. And there is every reason to believe that these also will be found of increasing importance in the study and treatment of disease.

The methods of blood analysis are simple enough for any intelligent and well trained technician to carry out accurately. It is important that the blood be obtained only when the patient has taken no food for 12-14 hours previous to the test. One drop of a saturated solution of potassium oxalate must be added for each 5 c. c. of blood to prevent clotting. It is better to make the determinations as soon as possible after the blood is obtained. Sugar is destroyed quite rapidly in fresh blood. One drop of commercial formalin added to 5 c. c. of blood will preserve it satisfactorily as long as 24-48 hours.

TABLE I.—Blood Sugar Findings in Various Types of Glycosuria.

	mgs. per 100 c.c. blood
Normal	70-120
Alimentary glycosuria	150-170
Renal diabetes	70-120
Early or mild true diabetes.....	120-300
Severe diabetes	300-600

TABLE II.—Blood Sugar Curves after the Ingestion of 1.5 Grams of Glucose per Kilo of Body Weight.

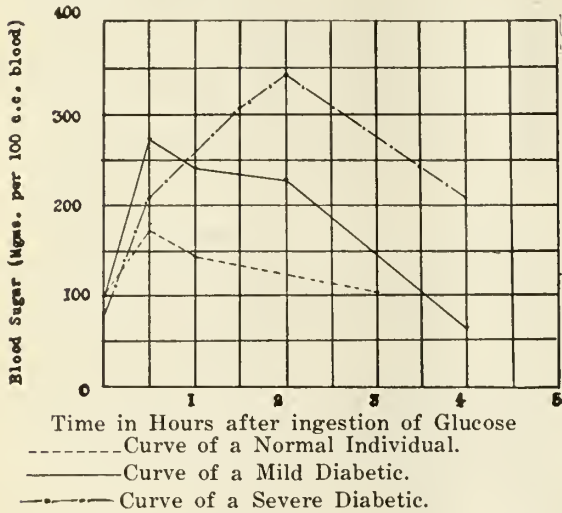


TABLE III.—CO₂ Combining Power of the Blood Plasma in Acidosis.

	c.c. CO ₂ per 100 c.c. blood plasma
Normal (adult)	50-75
Slight acidosis	40-50
Moderate acidosis	30-40
Severe acidosis	Below 30

Note: The figures for children are about 10 c.c. lower than those given for adults.

TABLE IV.—Characteristic Blood Chemical Findings in Different Types of Renal and Vascular Disease.

Condition	Total Non-protein Nitro. mg.	Urea Nitro. mg.	Creat. mg.	Uric Acid mg.
Normal	25-35	10-15	1.2	1.3
Chr. hypertensive				
vascular disease	35.0	16.2	1.4	2.9
Myocardial insufficiency	31.4	17.3	1.1	...
Parenchymatous nephritis	28.2	15.4	1.7	3.7
Mild chronic nephritis	45.3	33.6	...	3.2
Severe chronic nephritis	143.0	122.0	4.3	5.2
Pyelonephritis (chronic)	196.0	160.0	11.9	...
Bilateral polycystic kidney	70.5	41.1	2.8	3.8
Acute glomerular nephritis	51.8	25.0	...	5.6
Prostatic obstruction				
("Back pressure kidney")	50.4	27.5	1.2	2.9
Bichloride of mercury poisoning	236.0	143.0	13.0	14.0

Note: All figures are in milligrams per 100 c. c. of blood. The results given are those actually obtained in typical cases.

TABLE V.—Chart to Show the Effect of Diet on the Blood Chemical Findings in a Case of Progressive Chronic Diffuse Nephritis.

Date	Total Non-protein Nitrogen mg.	Urea Nitrogen mg.	Creatinine mg.
May 21	217	170	13.5
May 28	221	177	---
June 4	250	177	---
June 11	189	163	15.4
June 18	186	143	18.3

June 25	140	103	16.0
July 2	136	104	16.3
July 9	104	76	17.3
July 16	114	92	20.1

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Glucose Tolerance Test.

MILDRED LAW, Director of Laboratories, DRs. MENNINGER, Topeka, Kansas.

Read before the Kansas Medical Laboratory Association, December 14, 1922, Topeka, Kansas.

The glucose tolerance test is based on the physiological reaction of the pancreas to a known amount of sugar. In other words it is a test of pancreatic activity. From our standpoint the method or technique of the test is the most important matter. It is necessary of course in any such test as this to have the honest co-operation of the patient. The night before the test is to be made we explain the purpose of the test and instruct the patient to come to the office the following morning without having eaten anything and preferably without taking anything to drink, except perhaps a small glass of water. The patient is also warned that the procedure will necessitate his remaining in the office all morning.

A specimen of both blood and urine are obtained as soon as the patient arrives at the office. Then the glucose meal is given and the time noted exactly. The glucose meal is prepared the night before in order to save time the morning of the test; this meal consists of glucose, lemon juice and water. The composition of the glucose meal varies with the weight of the individual.

From frequently repeated tests on normal individuals the average of glucose assimilation limits has been ascertained at 1.7 gm per kilogram body weight. This is regarded as standard by physiologists.²

For instance a person weighing 150 pounds would receive 120 c. c. of glucose, 90 c. c. of lemon juice and water to make 400 or 500 c. c. The lemon juice is added merely to make the meal more palatable. Exactly thirty minutes after the patient receives the meal a second specimen of blood is taken. Then again at exactly one hour after the meal was given a

third specimen of blood is taken, and at this time a specimen of urine is also obtained, and the patient is asked to drink a measured amount of water, usually about 200 c. c. From this time on the blood and urine are obtained every hour for either 3 or 4 hours more and the measured amount of water is given to the patient each hour with the exception of the last one.

The urine is measured and tested qualitatively for sugar with Benedict's qualitative solution and if sugar is present the relative amount is noted, as 1, 2, 3 or 4 plus. And these facts are charted as I will illustrate later. We use Benedict's solution because of its great improvement over Fehling's solution. Owing to the substitution of sodium carbonate for sodium hydroxide the solution is not reduced by urates or creatinine. It does not give a positive reaction with the concentration of glucose normally present in urine, but is very sensitive for small increases beyond this.² Using Benedict's qualitative solution our standard for reading the reaction is as follows: A one plus in comparison to the control Benedict's solution is when there is a change to a greenish blue color, with sufficient opacity to prevent reading ordinary print thru the test tube due to suspended precipitate. Where there is a greenish yellow color with more marked opacity we designate it a 2 plus. A three plus is a reaction producing, not a green, but a decided yellow color with a tendency to red or copper color. A reaction producing a reddish copper color we call a 4 plus. This classification, (when using 1 or 2 drops of urine) corresponds very closely to percentage of sugar present.

The blood is obtained by venipuncture and I usually take 5 c. c. each time and put it into a small wide-mouthed bottle with rubber stopper containing about 6 drops of 20 per cent calcium oxalate solution to prevent clotting. The amount of blood sugar is estimated on each sample of blood by the Folin Wu method.³ This method I think is gaining wider recognition as a very efficient method for estimating blood sugar. It is not at all complicated and is probably familiar to the majority of you.

I will outline it briefly. There are only six solutions necessary.

1. 10 per cent sodium tungstate.
2. Two-thirds N sulphuric-acid.

These are used in preparing the protein free blood filtrate.

3. Alkaline, copper tartrate solution.
4. Standard sugar solution.
5. Phosphotungstic-phosphomolybdic acid.
6. Saturated solution of sodium carbonate.³

The standard sugar solution contains 1 mgm. of dextrose per 10 c. c. solution and I usually prepare two standards when running this test—1, using 2 c. c. of this solution and 2, using 4 c. c.—thus one is the normal or 0.10 per cent and the other twice normal or 0.20 per cent.

After the protein free blood filtrate has been prepared, 2 c. c. of each are measured into marked test tubes, 8 inch by 1 inch size graduated at 25 c. c., then 2 c. c. of the alkaline copper solution are added to each tube including the two tubes containing the standard sugar solution. These are put into a water bath of boiling water and boiled for six minutes. The sugar plus the heat thus applied effects a reduction of copper proportionate to the amount of sugar present. Immediately upon removing the tubes from the bath one c. c. of the phosphotungstic-phosphomolybdic acid is added to each tube as nearly simultaneously as possible. This dissolves the cuprous oxide. This is mixed, cooled to room temperature, and 5 c. c. of the saturated sodium carbonate solution added. An intense blue color is gradually developed which will remain unaltered for several days. However after standing five minutes, then diluting to the 25 c. c. mark the color comparison may be made immediately, and the amount of sugar calculated. This really is not a time consuming method for the seven or eight sugars can easily be run thru in 45 minutes, or an hour.

To make the facts thus obtained easily and quickly readable we chart them on graph paper which I wish to demonstrate: You will see on the right hand side a legend showing the meaning of the characters and on the extreme right you will find the amount of urine output and water intake represented by so

many c. c.'s per square. The urine output is represented by a solid black bar and water intake by the open bar. The sugar in the urine is represented by black circles under the urine output bar. The blood sugar is indicated in so many mgm per 100 c. c. blood per square on the left hand side; time is noted in hours at the top. At the bottom of the page the black lines indicate the normal limits of blood sugar after 12 hours of fasting.

The red line represents the *Blood Sugar Curve*.⁴ This is really a line connecting the points representing the blood sugar estimations at the several hours.

The majority of patients upon whom test has been made were those known to have diabetes, or suspicioned of having diabetes. The first two cases here illustrated however, are controls or normals, Charts I, II and III. The features to be noticed are that they come up promptly to 0.15 per cent or 0.17 per cent and are back within the normal limits at the end of the second hour period. It is a remarkable fact that the second hour is often lower than the third or fourth hour.

Charts IV, V, XIII and XIV represent what we know as pre-diabetics or abnormal. The feature you see here is that the blood sugar curve does not come down promptly within the two hour period, but lags along to the third hour indicating a lack of glycogenesis owing to an absence of ferment from the pancreas.

Charts VI, VII, VIII, IX, X, XI and XII are of cases of undoubted diabetes of more or less severity.

I have one case to show you upon whom we have two curves. One, Chart XIII, was made before any treatment and altho the patient had a rather pronounced case of pre-diabetes, he did not take treatment but after several months of self-directed diet he returned for another test. The curve of Chart XIV clearly shows his improvement altho he still is far from normal.

In some cases here you have noticed a hyperglycemia without the demonstration of sugar in the urine. Physiologists explain the phenomena in this manner: The presence of a hyperglycemia affects the blood vessel walls

in such a way as to render the cells of the glomerulus and tubules less pervious to sugar. In other words the threshold point for sugar has been raised by the prolonged presence of an excess of sugar in the blood.

I have two other charts that I think are interesting. Chart XV is a case of endocrine disorder in which Dr. Menninger suspected that there might be a high glucose tolerance; there being other evidence of hypopituitarism. You will see this is well shown by the curve.

Chart XVI represents a case in which we found one plus sugar in the urine with a blood sugar of 0.14 per cent. Since the blood specimen had been taken about 10 o'clock in the morning, three hours after the average breakfast time, a low glucose tolerance with possibility of diabetes was suspected. A glucose curve was made and found to be normal. Upon further questioning the patient we discovered he had had breakfast only a short time before coming to the office on that particular morning.

Dr. Karl Menninger believes that the appearance of sugar in the urine in many neurotics is explicable on the basis of psychogenic mobilization per adrenal stimulation. It is well known, of course, that glycosuria is found in many college students during and after final examinations.

In conclusion, it seems to me that as laboratory workers we may say to the clinician who has a case of diabetes, or suspected diabetes: Here is a case in which a glucose tolerance test would be of definite value to you. The glucose tolerance curve will give you a clear conception of the severity of the case. It may show the patient to be a pre-diabetic—a stage of sugar intolerance that can be successfully treated.

In cases of true diabetes the glucose tolerance curve performed at intervals during the course of the treatment, is an indication of the rate of the return of pancreas activity, thus the physician may know when or how nearly this activity has returned to the normal. More of these studies need to be made to establish definite limits for the four types of curves that are indicated by this series,

the sub-normal, normal, pre-diabetic and diabetic.

The sub-normals, which are probably due to endocrine disorders surely merit further study in this field to increase the value of this test as an aid in diagnosis. Results of our investigations as well as of others would indicate that the glucose tolerance test undoubtedly reveals an important number of cases of early or latent diabetes in which dietary regulation is the indicated procedure for it seems probable that many cases of diabetes may be prevented by diet instituted on the basis of glucose tolerance test in this pre-diabetic stage.

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4. This color can not be shown here, but we use it in the original charts.

—B—

Syphiloma of the Rib—Review of the Literature and Report of a Case

FERDINAND C. HELWIG, M.D., Halstead, Kan.

Bone syphilis is as old as the disease itself and periostitis with osteitis is as old as bone syphilis. As Power has aptly expressed it, the term "node" to denote localized luetic periostitis is now relegated to folklore. So we see that we are dealing with a condition of sufficient antiquity that it's possibility must be considered at least in differential diagnosis, in spite of the gratifying scarcity of bone lues brought out by the brilliant researches of Ehrlich and Wassermann. Too much confidence in the Wassermann reaction has in fact become a stumbling block of no mean proportions in tertiary lues, due to the relative percentage of negatives found in this stage. The time worn platitude once uttered by Osler and at present so extensively plagiarized that it has almost become a household expression: "Know syphilis in all of its manifestations and all other things clinical will be added unto you," is none the less true for it's appalling triteness.

The paucity of literature upon syphilitic involvement of the ribs may be due to the attitude taken by observers that it is unim-

portant or else the cases may have been included among those published with multiple gummatous lesions. A very careful review of the literature has revealed but seven published cases. Mention of tertiary rib syphilis is not included in the standard texts. My deductions are that it is relatively uncommon. Ware mentions the appearance of nodes on the head, sternum and ribs, which he considers the analogue of adenopathy, being transitory in nature and having nothing whatever to do with the later tertiary formations. Reidel makes the assertion that the ribs are subject to infection from acute osteomyelitis, typhus and also from actinomycosis and lues. Gue states that an affection of the chest, vertebrae and ribs in the gummatous period occurs in 2.6 per cent of cases among men and 4.5 per cent among women. Porfiriev mentions that he saw fourteen cases of syphilitic periostitis of the ribs during seven years work in the syphilis clinic of Kazan University. There were no cases of primary gummatous osteitis or primary chondritis of the cartilages.

The following is a report of all the available cases:

Porfiriev. Case 1.—Man, age 32, admitted to the Psychiatric Hospital, in Kazan in a condition of acute delirium. Past history and venereal history negative. About a week prior to admission his first symptoms of illness were observed. He ran a more or less typical course of dementia paralytica while in the hospital, with the additional development of a large carbuncle on his neck and multiple furuncles on his mouth, cheeks and arms. About a month after admission a mobility was noted in the region of the 5th and 6th ribs at the place of junction of the cartilage and bone. A thorough examination revealed no signs of violence. The patient became unconscious and died in about ten days. Diagnosis of dementia paralytica with diastasis at the junction of the manubrii sterni and corpus sterni, diastasis between the third, fourth and fifth cartilages of the left ribs and ribs, also a thickening at the junction of the eighth cartilage of the rib and rib. Partial autopsy was admitted and microscopic examination showed it to be a clear cut case of gummatous chon-

dritis and gummatous osteitis of the ribs and sternum.

Legrain. Case 2.—Man, age 20, with gumma of the ribs and pleural fistulas, likewise affection of the breast bone. This was a case of hereditary syphilis. A month of specific treatment resulted in some improvement; then hemorrhages appeared and the patient died. The nature of the malady was proven histologically.

Koller. Case 3.—(Cited by Porfiriev). This case was demonstrated before the Dermatological Society of Berlin. The patient, age and sex not given, noticed two years after infection painful swellings of various sizes on the chest. They were covered with unchanged skin. Syphilis was diagnosed after some hesitancy and was proven after specific therapy.

Coutt. Case 4, 5.—He tells of two cousins who had hereditary syphilis in the same form, namely: simultaneous gummata of the ribs and sternum. In one the symptoms appeared at twenty-five, in the other at twenty-eight years of age.

MacLachlan. Case 6.—Man, age 49, two years prior to examination he had suffered from a large indurated mass in the region of the sternum where two perforations subsequently appeared. He was treated with blue ointment and potassium iodide, a raw surface was still present at the time of demonstration.

Forster. Case 7.—Girl, age not given, came into the hospital with a large gumma of the back which was treated with potassium iodide and improved remarkably. A year later she was admitted again suffering this time with a large node on one of her ribs on the right side and a severe syphilitic synovitis. The condition cleared up under the administration of potassium iodide.

Helwig. Case 8.—Man, age 39, came into the clinic complaining of a painful tumor on his right breast, which had been diagnosed sarcoma, inoperable in nature and to which the unhappy prognosis had been given which is usually coincident with such pathology. Four months prior to admission he had suffered an injury to his right jaw which was followed by painful swelling, hard in con-

sistency and about the size of a walnut. This was lanced and the bone curretted by a surgeon and healed very slowly. About six weeks ago the sinus which had formerly healed broke open and drained. It had been draining ever since. About a month ago he noticed a lump on his right breast, while he thought followed a blow he had received some days previously. He said the swelling was only painful at night but the pain was then so intense that he was able to get but very little sleep.

Examination.—There was a scar at the angle of the right jaw which was markedly indented and contained a small sinus in the center of the indentation. It drained a yellowish serous fluid. There was a tumor mass about as big as a medium sized apple between the second and fifth ribs just to the right of the sternum and it shaded off into the area of the sternum. On palpation it felt hard about the periphery but was softer in the center of the mass at the apex. It shaded off indefinitely in all directions. The skin was freely movable over it. Otherwise examination proved to be essentially negative. A radiograph of the right chest showed some irregularity of the periosteal contour for about two inches to the right of the sternum on the fourth rib. The same rib showed increased density of the shadow especially at the junction of the rib with the cartilage. For a short distance to the right of the cartilage there was some osteoporosis. The cartilage of the fourth rib seemed to be swollen and the shadow was noticeably less clear than on the other ribs. The sternum was apparently free from involvement.

Treatment.—He was placed on potassium iodide and given mercury rubs, with instructions to return in two weeks for examination. Upon his return two weeks later he stated that upon the second day following the use of his medicine, he had experienced his first nights real sleep, free from pain, in over a month. The osteocopic pains had now disappeared entirely and the tumor was at most but half its original size.

The patient appeared again a month after his first examination and the tumor had entirely disappeared. The sinus on his jaw

had ceased draining and had healed completely. We continued him on potassium iodide and have since not heard from him.

Diagnosis.—Luetic periostitis and osteitis of the fourth rib (right) and possibly luetic chondritis of the fourth rib cartilage.

Discussion.—A tumor following closely upon an injury, painful only at night and of suspicious central consistency, immediately suggested other possibilities aside from sarcoma. The draining sinus on his jaw looked like a luetic process and the history of the jaw condition was highly suggestive. The x-ray plate rather ruled against sarcoma, since we think of sarcoma as growing from one side of the bone, while syphilis notoriously involves its entire thickness. However complete satisfaction was experienced when, after two weeks specific treatment, we found the "Therapeutic Test" to be so strongly positive. Unfortunately the cases herein reported have failed in a large measure to deal with symptoms, signs, pathology or treatment. They were in fact very brief descriptions and have been incorporated more or less in detail in this paper. A long discussion of the pathology of bone syphilis is uncalled for. Porfiriev has elaborated this phase of the condition quite generously but his findings are merely those of bone syphilis elsewhere. The x-ray picture produced in our case is easily explained by a comprehensive understanding of the pathology.

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—————B—————

Fable for the Kansas Doctor

By RENNIG ADE

Once there was a Kansas Doctor who in a moment of incautiousness was stung and severely poisoned by the radio bug. This bug has been described by bacteriologists as an ubiquitous coccus about the size of a Ford casing—habitat, the empty place in a doctor's head—habits, persistent—toxins, cumulative—treatment, futile.

The Doctor had read of the radio in his daily papers and magazines, and had even heard a Chautauqua lecturer explain it. In his own mind, however, he had listed it as a thing apart not liable to enter into his own life—a pleasure for his city colleagues who would enjoy it alongside their league baseball games and midnight suburban chicken dinners.

It never occurred to him that the time would come when he would dash over the prairies in his tin lizzie, a copper wire around his perfect 42, his ears covered by a receiving set, his tiny aerial sticking jauntily out in front, with one ear listening for the lusty howl of the expected arrival four miles away, and with the other getting a quotation from his home banker as to the financial responsibility of the new clientele.

Seeing his friends one by one and then by droves succumb to the radio craze, he studiously avoided them, and refused many invitations to "listen in."

However, the time came when to avoid appearing rudely discourteous he had to at last accede to the repeated wishes of a good neighbor, and in company with Friend Wife dropped in for a seance.

We call it "seance" because of its resemblance to a spiritualistic rapfest. All equip themselves with ear-muffs and clamps three sizes too small, sit in a circle, and try to register intelligence and polite interest.

The neighbor, a courteous individual whom no one wishes to offend, now begins to twist

indicators, screws and valves. The listeners are rewarded by an occasional scratch or whistle, but otherwise the thing maintains the silence of the tomb. The neighbor volunteers excuses as he works, mentioning "static," "transformer," "wave-length," etc., with a familiarity that betokens inside information.

At the end of an hour a gleam of hope suddenly lights up the neighbor's countenance. The listeners divine that he has had a nibble. But nothing in the torturing headlock over their ears has apprised them of the fact.

A few more turns of the gleaming dials, and a faint feminine squeak—seemingly from the Cataline Islands, and from the depths of a glass-bottomed boat—announces "And for Bonnie Annie Laurie I would lay me down and—s-c-r-a-t-c-h, squawk, g-r-r-r, whistle—and dee." This was encouraging, but our neighbor lost contact or control of something just then, and Bonnie Annie departed with an eldritch shriek which nearly lifted the Doctor out of his chair.

A half hour later the sustained silence was broken by the sudden announcement by the Palmer School of Chiropractors, Davenport, Iowa, that "Mr. Blgzwrqlb will now sing Rocked In the Cradle of—s-c-r-r-atch—whistle—squeak—Sweeny Automobile School, Kansas City, M—s-c-r-r-atch—squeak—howl—located at Fort Worth, Texas."

The neighbor was getting away better, and was pleased. The Doctor was getting dizzy. He longed for a stabilized point on which to focus his auditory apparatus. He felt relieved when Anthony, Kansas, came in with that late musical hit "A Hot Time In the Old Town" played on a graphophone. The second selection, "After the Ball," was good except the operator forgot to change needles. Naturally this was fussy, and incidentally the scratches and whistles got busy on the third verse, and the neighbor fled from this with a vicious twist of his steering gear.

He landed kerspat on a lady who was decanting in a pure sweet voice about the devilishness of Peter Rabbit. She had just reported Peter cornered in the cabbage patch, and Mr. McGregor coming with fire in his eye. The Doctor's wife, who is naturally very sympathetic, flopped her hands and cried

"Shoo!" thinking to tip Peter the information that Mr. McGregor was in the offing. Naturally taking the opposite side, the Doctor yelled out "He's hiding in the sprinkling pot, Mac!" A wailing, scratching, whistling pandemonium now broke in, and they judged McGregor was beating out Peter's brains with a carrot.

Just then Miss Jones from St. Louis announced firmly that "That will be all for tonight." Evidently she thought McGregor was going too strong on Peter.

The neighbor was much delighted with the Doctor's enthusiasm, and tried to give them all he had. He switched a little doodad, and a lady soprano from Glendale, Cal.—the home of the endocrine products—sang in a deep bass voice, "Ain't It a Grand an' Glorious Feelin'". This was followed by an organ solo, "Te Deum Epididymus," by Harrower.

Again they were switched to Davenport, where they heard one of the patients singing "Adjust and Generous God Will Bless." The slamming of a door in the garage threw them off onto the University of Wisconsin Agricultural Department, from where Dr. Cereal was delivering a lecture on the care of chinch bugs during the mating season. The neighbor again worked the levers, and somebody somewhere "signed off" saying, "It is exactly 9:30 day before yesterday—good-night." Miss Jones quietly slipped Iowa two feet of snow while the orchestra was resting, and then bragged about it.

The Doctor was now in a mood to believe anything, and it is probable it was at this time the bug giggled him. Anyway, he left his friend's home a changed creature. He knew well that the children needed clothes, and that the house needed painting, and that the taxes should be paid, and provision made for an ice-book a month later. But to all this he turned a deaf ear. In years gone by he had craved respectively the graphophone, the automobile, and the player-piano, and had in some manner made out to gratify these cravings. But never in his most fitful moments of longing had he experienced anything like the abandoned craze that now obsessed him.

He cautiously and timidly voiced his feelings, and immediately learned to his aston-

ishment that three implement men, two barbers, one harness maker, ten automobile dealers, and numerous bootleggers without definite place of business, were agents for as many different makes of radio outfits, each superior in every way to the others. He very quickly made a selection from the smoothest talker, and instructed him to install it immediately, "ground wire and all," making it clear to the radio agent that he has no time to bother grinding wires for a radio outfit. This he opined would impress the salesman not only with his rush of business affairs, but with his knowledge of the game, and thus guard against any attempt to put anything over on him.

The Doctor now has his radio running full blast, and it certainly is a pleasure to sit back in his easy chair and get every word more or less distinct from the Peter Rabbit Lady and the Palmert School of Chiropractors, Davenport, Iowa.

Moral—"Where there's a will there's a way."

—————R—————

BELL MEMORIAL HOSPITAL CLINICS

From the Surgical Clinic of Mervin T. Sudler, M. D.

THE USE OF LAXATIVES AND CATHARTICS IN SURGICAL CONDITIONS

"Violent abdominal pain unattended by diarrhea contraindicates the administration of a purge."—Fantus.

CASE HISTORIES

1. *Acute appendicitis.*—Hospital No. 13,000.

The patient we are considering today is a young farmer twenty years old. He was seized with pain in the epigastrium while working. The pain became progressively worse and he was nauseated and vomited once. Late in the afternoon he visited his physician who prescribed two ounces of castor oil, after which he vomited a number of times, and the pain became much worse and he was very uncomfortable until 2:00 a. m. when he fell asleep. In the morning his bowels moved but this gave him no relief. He entered the hospital yesterday evening, four days after the initial attack. A tender mass could be palpated in his right side. His pulse

was 78, temperature 99.2°, leucocytes 12,400. Now we find his appendix is embedded in the omentum and a small amount of free pus appears when the adhesions are separated. (The appendix was removed and drainage inserted.)

2. *Intestinal obstruction.*—Hospital No. 11680.

Complete obstruction of small intestine by a fecolith two to three feet above the ileo-colonic valve. About sixty hours before operation the patient was suddenly seized with pain and cramps in her abdomen.

She then took a dose of salts (magnesium sulphate). *This was rapidly followed by nausea, vomiting and more pain.* She then called her physician, who found her temperature subnormal, her pulse 84 and a leucocyte count of 18,000. He tried enemas without result. A diagnosis of intestinal obstruction was made but operation was refused. It was then about 9:00 p. m. She was given one quarter of a grain of morphine hypodermatically and nothing by mouth. Next morning her distention, discomfort, pulse and nausea were all increased and she was then removed to the hospital. By that time her pulse was 104 and her appearance was that of a very sick woman. She was operated upon immediately and the fecolith removed. The next day her pulse was 140 and while she finally recovered the outcome was doubtful for 48 hours.

The patient suffering from appendicitis was made very much more uncomfortable by the administration of oil. All of the symptoms were exaggerated and in spite of the fact that the inflammation of the intestine was not sufficient to paralyze it completely and that part of the oil was retained and finally caused a movement of the bowels, it gave him no relief. From his own story it was evidently harmful.

In the patient suffering from obstruction, the laxative and the stomach fluids in addition were vomited and added to the discomfort and severity of the symptoms.

There is no class of drugs used so indiscriminately and so thoroughly abused as the laxatives and cathartics. Their misuse extends from the miscellaneous dosing at home to their thoughtless use by physicians. There

are all sorts of patent and proprietary preparations, whose action is of this character, sold under various names in all the drug stores. To those of you who would read a short and very sane presentation on this subject I would recommend the small publication composed of a series of articles appearing in the Journal of the A. M. A. by Bernard Fantus and published separately under the title of "Useful Cathartics." I quote a portion of the author's brief preface.

"When physicians no longer prescribe physic whether the patient needs it or not, when doctors cure and never cause the cathartic habit, when patients who require an evacuant are fitted carefully, skillfully and artistically with the very agent best suited for them, when medical students are taught therapeutics with sufficient thoroughness to enable them to prescribe the proper purge with intelligence and efficiency, when books on pharmacology and therapeutics adequately deal with the use of medicine—then, a publication like the present little book will no longer be required."

However, the phase of the subject that I wish to emphasize today is the use of cathartics in the presence of surgical abdominal conditions and in the preparation of patients for surgical operations.

The average person is often much concerned whether the bowels move or not regardless of the state of their health or feelings. We should remember that persons suffering from ordinary constipation may have a bowel movement only once in seven days, or even much longer and attend to their customary occupations. A condition of acute constipation *without obstruction*, causing death, is impossible. Even the impaction occurring in opium addicts does not cause alarming symptoms. When there is definite obstruction, whether this is caused by mechanical means or by the paralysis of inflammatory conditions it is impossible for a cathartic to cause a movement of the bowels.

Let us review very briefly some of the possible symptoms resulting from constipation *without obstruction or paralysis*. They are a

coated tongue, headaches, slow pulse with low blood pressure, malaise, poor appetite, clammy and muddy skin.

The result of obstruction, no matter to what it is due, is much more serious and striking. First and most important, pain, exaggerated peristalsis, nausea, vomiting, elevation of pulse, reverse peristalsis, intense toxic symptoms caused by the rapid proteid destruction, the decrease of the sodium chloride of the blood and urine, as shown by the researches of Haden and Orr, the higher the point in the intestine obstructed the more rapid these changes occur.

When a cathartic is given under such conditions the upper portion of the intestine is stimulated—pain is increased. Reverse peristalsis soon occurs and to quote Harris, "The surgeon listens to the tale of the patient or nurse (or alas! at times of the attending physician) of the repeated doses of castor oil, of calomel or of salts of magnesia *ad nauseam* which have been poured down the poor patient's throat only to be promptly returned with interest." The formation of the toxic materials is hastened and the condition rapidly becomes alarming. A cathartic under such circumstances will *never* cause a movement of the bowels, and where the obstruction is due to intussusception it will only serve to increase the pathology so all purgative medication is absolutely contraindicated. In fact with a diagnosis of obstruction made all treatment is directed toward preventing peristalsis until the cause itself can be removed. A great many years ago Alonzo Clark advocated giving morphine until the respirations were slowed to twelve a minute in patients suffering from peritonitis and obstruction. This method was used extensively and its success depended upon the reduction of peristalsis to the minimum.

The rapid absorption of this toxic material in the distal portion of the intestine after a mechanical obstruction has been relieved may lead to alarming and fatal results. It has been suggested that from two to three ounces of a saturated solution of magnesium sulphate be injected into the intestine through a fine hypodermic needle in order to increase the osmotic pressure inside of the intestine

and to hasten the elimination of this material. This method we used in the case cited. However, the most efficient method discovered so far is that of Haden and Orr, using large quantities of three to five per cent solution of sodium chloride under the skin.

The reverse peristalsis and faecal vomiting must be treated by the prompt removal of any accumulation in the stomach with lavage.

In the preparation of patients for a surgical operation drastic catharsis is no longer used. An athlete would not think of taking a large dose of calomel and salts as a preparation for a football game or other test of strength and endurance. Neither should our patients be handicapped in the same way. In abdominal operations it is desirable to have the intestines empty and this should be accomplished in the gentlest manner possible. The most efficient measure is the soapsuds enema properly given, combined with limited diet the day before, though a moderate dose of castor oil or cascara does no harm. In operations on other parts of the body no cathartic or laxative is needed, unless there is some unusual indication referable to the bowels. After operations we rely upon the treatment of symptoms as they arise. Gentleness in handling the intestines, a limited exposure to the air and iodine fumes prevent and limit the amount of gas pains. For gas pains we use heat and usually a gas enema containing turpentine as the active ingredient. Calomel is never used. We do not use a laxative by mouth until the third day, when a moderate dose of cascara is given, *provided there is no pain or nausea*. If these are present, enemas are relied upon entirely.

"Violent abdominal pain unattended by diarrhea contraindicates the administration of a purge."—Fantus.

B

There are thousands of tunes but not many notes. There are twenty-six letters in the English alphabet but there are more than 500,000 words. In the Ancient Hebrew language they got along with 500 words.

At the request of the Council on Pharmacy and Chemistry, Dr. R. A. Hatcher undertook to elaborate a digitalis preparation that would

be stable, that would contain a definite amount of the readily absorbable principle and that would be suitable, if possible, for intravenous administration. As a result of his work he has isolated a digitalis body which behaves unlike any constituent of digitalis heretofore described. A nearly fatal dose is eliminated within a few hours after its introduction into a cat. It remains to demonstrate the therapeutic value of this new digitalis preparation through the co-operation of the clinician and the pharmacologist. The intravenous administration of digitalis is rarely necessary if digitalis is properly given by mouth. For rare cases in which intravenous medication administration is indicated, it appears that Dr. Hatcher has prepared a drug whose action is less persistent than other digitalis preparations now available and which is simply and inexpensively prepared. (Jr. A. M. A. Apr. 14, 1923.)

The general view is that neither mercury or arsphenamin positively cures in cases in which the disease has existed long enough to become well established as a systemic disease, but that they both tend to cure and that both are valuable in treatment. It is the general opinion of syphilologists that when chancres are seen that are unmistakable, these cases should be vigorously treated and that there is a good chance of aborting the disease at this time. If early cases are not treated until the Wassermann reaction has become positive, there is a difference of opinion as to treatment. There are syphilologists who believe that these early cases are better treated by mercury alone until the patient has had an opportunity to develop all the immunity of which he is capable. After the patient has established all the resistance of which he is capable, these syphilologists would treat with mercury and arsphenamin. It is becoming increasingly apparent that the advantages of the new method of treating syphilis in which arsphenamin plays the larger part, are by no means certain. The trend of the last few years has been in the direction of placing more reliance on mercury and the older methods in the treatment of syphilis. (Jr. A. M. A. Apr. 21, 1923.)

THE JOURNAL

of The

Kansas Medical Society

W. E. McVEY, M.D. - - - **Editor**

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The Annual Meeting

The fifty-seventh annual meeting of the Society was one of the largest and one of the most interesting in its history. The registration books showed that there were 410 in attendance. One of the very noticeable features was the very few failures on the program. But one of the members whose name appeared on the program failed to attend, and but one of the invited guests was absent. Comparing this with some of the meetings of years past, when at least one-third of the program failed, one must conclude that members of the Society appreciate more fully, either their duty to the Society or the benefits to be derived from the honor accorded them. The most impressive feature of the program was its excellence. The papers presented by members of the Society did not suffer in any degree by comparison with those read by our invited guests. This program, more than any heretofore presented, showed the advance which the Kansas profession is making in scientific medicine.

The entertainment was excellent as is always the case when the Society meets in Kansas City. This matter of entertainment, however, is an embarrassing one to many of the smaller cities in Kansas where the annual meetings could be held. The expense is a con-

siderable one and where the membership is small and the expense must be carried by a few it is sometimes a considerable burden. At the last meeting of the Council a resolution was adopted to discourage the custom of entertaining the attending physicians in any expensive manner. Banquets are not the only means by which the members can be brought together for better acquaintance, in fact the banquet is not as successful in that way as the less formal luncheon or smoker. Of course the men who entertain the Society have the privilege of determining what kind of entertainment they shall offer but it is safe to say that very few members will be disappointed if the more elaborate functions are dispensed with.

Not many years ago there was usually a scramble for the next meeting of the Society, but this year voluntary bids were lacking. Dr. Mitchell came to the rescue, however, and offered to provide for the next meeting at Iola. Those who know Dr. Mitchell have no fear that he will be unable to provide all the facilities for a good meeting and all the entertainment the available time will permit, but Iola is hardly large enough and is not easily reached from a great part of the state. It will require an unusually attractive program to draw an average attendance there.

There are really but five cities in the state of sufficient size and so located as to meet the requirements for our annual meetings. These are Kansas City, Topeka, Wichita, Hutchinson and Salina. Leavenworth is large enough but is not easily reached from a considerable part of the state. In order that the problem of selecting the meeting place might be simplified a committee was appointed by the Council to prepare a schedule of meeting places—a list of available, or suitable cities and a plan of rotation. In this way the county society which is to entertain the annual meeting will know long enough beforehand to make preparations. The plan seems to contemplate the selection of the cities named as meeting places to be taken in regular rotation. In 1925, for instance, the meeting will be held in Salina, in 1926 in Hutchinson, in 1927 in Wichita, in 1928 in Topeka, in 1929

in Kansas City, and then around the circle again. Such a plan may be very satisfactory since each place would entertain the Society once in five years, on the other hand the three larger cities with their much larger memberships might easily assume a larger share of the burden.

The House of Delegates did not seem to look with great favor upon the proposal to give the members full protection against damage suits. The delegates, or many of them, seemed to think that the members of their societies would not welcome any increase in annual dues to meet obligations of this kind.

A committee was appointed to canvas the situation and submit a plan for consideration. The committee, as its report, submitted a proposal to amend the constitution so that the dues could be raised to provide for the payment of judgments as well as the cost of defense. Since an amendment to the constitution must lie over until next year the members of all the county societies will have plenty of opportunity to investigate the proposition thoroughly and instruct the delegates to the next annual meeting according to their wishes. It would have been quite as unfair to the members to reject the proposition at this meeting as to have adopted it, without giving them an opportunity to study it. A draft of the plan as it has been outlined with the reasons suggested for its adoption will be prepared and sent out to all the county secretaries. It will be unwise for any of us to determine his attitude on this subject until he has become acquainted with the plan proposed. In the meantime it is possible that the A. M. A. may inaugurate a defense plan for the whole organization and thus obviate the necessity for any action on our part.

All the papers read at the annual meeting will be published during the year. Those who were unable to attend the meeting will read these papers at their leisure. Up to this time only those who have attended the meetings have had opportunity to discuss the papers, but, since they become the property of the Society when presented, it does not seem out

of place to permit further discussion through the columns of the Journal. At any rate an opportunity will be given the readers of the Journal to express their views on any of the subjects treated in these papers.

—————B—————

CHIPS

Man often buys his special knowledge at the cost of his common sense.

You never get any honor unless you make a study of diseases so rare that nobody ever has them.

The deviation of man from the stage in which he was originally placed by nature seems to have proved to him a prolific source of disease.

A malignant growth is cell-insubordination. An anarchist in cell society.

Bill Nye named his dog "Entomology" because he had so many boarders. The dog is known to have about forty different parasites. But poor man and the pig have more than the dog.

Man has made or constructed God in his own image.

There are as many species as there were ideas in the Divine Mind.

It is the arrangement of matter that determines the living from the so-called dead matter. On the same principles, probably, that Hamlet's soliloquy differs from the coarse joke or ribald song.

It was Metschnikoff who discovered the scavenger function of the white blood corpuscle.

Jenner made his first successful arm-to-arm inoculation with the virus of cowpox as a preventive to infection with smallpox in 1796 but did not announce his discovery until 1798. He got his idea from the Gloucestershire peasants who considered accidental cowpox (acquired in milking cows) a preventive of small pox.

It appears that inoculation of smallpox was practiced almost two centuries before Jenner's time by the Circassians. They observed

that children from six months to one year old having smallpox were seldom permanently marked and the mortality was low. Hence they inoculated in the body of the child a pustule taken from the most regular and mild case of smallpox. The Turks adopted the practice and vaccinated their children as soon as weaned.

About 1625 Lady Montague, wife of the English Ambassador to the Porte (Constantinople) had her infant inoculated. "The chaplain represented to this lady, but to no purpose, that this was an un-Christian operation, and therefore that it could succeed with none but infidels. However it succeeded admirably."

Pneumonia is one of the most common diseases, has been for centuries, and is one of the most deadly and the least under control.

Enveloping the chest with cotton, wool or poultices in pneumonia may be good practice but practiced on a well man would make him sick. The stuffy, smothery, buried, uncomfortable sensation caused by the enveloping adds to the patient's uneasiness and restlessness. Of course any kind of religion that makes a man better is a good religion. The same may be said of the treatment of pneumonia. But statistics are against success in the treatment of pneumonia as now practiced. Hence make the patient comfortable so far as can be done without adding to his misery and let him alone. In conversation with an up-to-date 20th century practitioner of medicine a few days ago, he said when he got a case of pneumonia in its early stage—in time—he seldom lost a patient. His success in curing pneumonia patients was in his mistaken diagnosis. The incipient cases, the ones he got in time were not pneumonia but catarrhal affections and those cases he did not get in time were pneumonia and he lost an many patients as his confreres.

Chemical tests of purity, to establish the uniformity of successive lots, are applied by the manufacturers of mercuriosal, but they are not content with this. Chemical tests are seconded and reinforced by physiologic tests. Rabbits and other animals are used for the test. Should an intravenous dose of 20 to 25

milligrams per kilo of body weight kill the animal, the drug is rejected, even though the chemical test may have shown it to be pure. On the animal test basis, the lethal dose for a man weighing 68 kilos, or 150 pounds, would be at least 1300 milligrams (1.3 gm.), thirteen times the recommended intravenous dose.

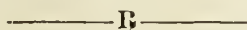
The Abbott Laboratories, Chicago, are distributing to physicians requesting it, a very useful monograph on the treatment of syphilis. It brings out the salient facts pertaining to the use of the arsphenamines in this disease, including a simplified technic for preparing and injecting solutions.

Among the best informed people in the profession the opinion is general that neoarsphenamine, D. R. L., is the most reliable drug. From 25,000 injections recorded at the Polyclinic Hospital, Philadelphia, there has never been a fatality, nor even a case of nephritis attributable to the drug. That is a wonderful showing.

The Council on Pharmacy and Chemistry has published a preliminary report on the experimental status of ethylene as an anesthetic. A. B. Luckhardt and J. B. Carter report that animal experiments with ethylene indicate that ethylene has a direct action on the nervous system when a concentration of 90 per cent is used; that the motor reflexes are abolished at this concentration, and that the phenomena produced by the undiluted gas are partly asphyxia, which factor can be removed by the addition of oxygen, when it is seen that narcosis results from the ethylene itself. Trials carried out on human subjects appear to confirm the anesthetic value of ethylene. The investigators believe that ethylene will be found more desirable than nitrous oxid, but the experiments reported have been carried out on persons in normal health only. The Council reports that confirmation of the work is necessary before ethylene can be admitted to new and non-official remedies, but that further research with the gas is warranted. As a preliminary to such research, the Council cautions that the quality of the product must be determined. (Jr. A. M. A. Apr. 7, 1923.)

Recently a statistical report regarding the possible influence of alcohol on the prognosis of pneumonia in a large municipal hospital has been published. The data for nearly 3,500 cases of lobar pneumonia showed that, with reference to the patient's habits of indulgence in alcoholic drinks, that the mortality was higher in moderate users than in light users or abstainers, and that the mortality is much higher in excessive users than in moderate users. It must be borne in mind, however, that these statistics have no bearing on the use of alcohol in therapy. (*J. A. M. A.* Apr. 7, 1923.)

An accident from the precipitation of mercurochrome-220 soluble by procain has been reported. The A. M. A. Chemical Laboratory has confirmed the incompatibility. The following local anesthetics were found to give precipitates when treated with mercurochrome-220 soluble solution; alypin, apothecin, benzocain, butyn, cocain hydrochlorid, Beucain lactate, phenacain, procain, propaesin, quinin and urea hydrochlorid, tropacocain hydrochlorid and stovain. Many vegetable alkaloids were also found to be incompatible with mercurochrome-220 soluble. (*Jr. A. M. A.* Apr. 14, 1923.)



Reminders by the Prodigal

We are told that: The oldest machine is the human body. Age of itself may not be a merit. But it has, at least, staying qualities to its credit. As we see it the human body is the finished product. It may be touched up a little here and there as we pass adown the vista of time, as contingencies arise necessitating more acute sensitization and simplicity in perfecting the orgnaism. But it fills the plans and specifications of our immediate wants.

The pineal body was once an eye in the top of man's head. This top eye would be a great convenience in arboreal life. It may develop again if there is too much monkey business continued.

Mind cannot be measured, but inferred, only, from the outward behavior of the creature. And that it is of our own mind that we can have direct knowledge? (Sometimes.)

The heart pumps five pints of blood each minute when the person is at rest. During a quick walk seventeen pints and a quick run up stairs thirty-seven pints. There are approximately 14 pints of blood in the body of an averaged sized man—that this amount of blood passes through the left ventricle of the heart and all around the body in a single minute. The plumbing system of the human body is practically perfect. An emergency is provided for also. The difference between five pints and thirty-seven pints of blood passing through the circulatory system in the same length of time means an increased pressure of 640 per cent so that this system of plumbing took good material for its construction and a specialist workman to do it.

There are approximately 6,000,000 vesicles or minute air chambers in the lungs of the average person, and if the inner surface of these vesicles was spread out the surface covered would equal an area one hundred times greater than the skin. We exhale about one-fifth of the air in the lungs each breath. The air cells close if we try to force exhalation of too much air in the lungs each breath. This makes breathing fool proof.

The saliva is 99 per cent water and food does not go down into the stomach—it is pumped down.

Red blood corpuscles are mostly made in the marrow of the bone and when they have served their purpose, worn out, they are destroyed in the spleen and liver.

The liver and pancreas each pour out about one pint of fluid daily into the bowel.

There are about 5,000,000 red blood corpuscles to the cubic centimeter.

There are 107 organs, or parts of organs, in the human body that are more or less vestigial. Hence nature appears to be simplifying the human body. She is enabled to do so by developing the potential energy of man's gray matter.

Degeneration of the teeth can be prevented by using the teeth to break up the food instead of cooking it.

Notice of an injury to a part of the body conveyed to the receiving nerve center and returned notice what to do it not an electric wave or else it is greatly retarded. For if an

electric current, purely, the messages would be conveyed a million times quicker.

The oldest part of the brain is the hind part—cerebellum and medulla oblongata. There is no correspondence between the functioning of the various parts of the brain and the overlapping parts of the head (the skull) so far as known and that phrenologists claim.

There is no theory of sleep satisfactory. It is only a very thin rind or cortex of nervous matter, about one-ninth of an inch thick on the average, covering the fore part of the brain (from the top of the head to the base of the forehead) which is the organ of consciousness.

—R— SOCIETIES

FRANKLIN COUNTY SOCIETY

The Franklin County Medical Society met in the dining room of the North American Hotel, April 26.

Dr. R. C. Dugan was elected a delegate to the annual meeting of the Kansas Medical Society and Dr. G. C. Mahaffy was elected alternate. Lance C. Hill presented a proposition to open a pathological laboratory in Ottawa, which proposal was endorsed by the society and recommended for the consideration of other civic organizations.

Dr. C. C. Nesselrode of Kansas City discussed the problems of exophthalmic goiter and other affections of the thyroid gland.

G. C. MAHAFFY, Sec.

THE TRI-COUNTY MEDICAL SOCIETY

Last summer members of the Cowley County and the Sumner County, Kansas, Medical Societies and the Kay County, Oklahoma, Medical Society met at Arkansas City to organize the three county societies into an association for mutual benefits. The first meeting was held at that time in Arkansas City. The second meeting was held in Wellington last fall. The third meeting was held in Blackwell, Okla., on April 19, 1923. Each of the meetings were profitable, but the Blackwell meeting was the climax of the association meetings for the year. In reviewing the results of the association work for the year, the chairman spoke of benefits and privileges that had been afforded and ex-

pressed the hope that now, after a year's trial, the society might be formed into a permanent organization. This was the sentiment of all present and accordingly Dr. Risser of Blackwell was elected president for the coming year, and Dr. Hawkins, also of Blackwell, was elected secretary.

The Kay County Medical Society and the Blackwell Chamber of Commerce met the expense of entertainment of the members from the other counties, and the provisions made were broad and liberal. The warm, brotherly spirit of the Kay County men was evidenced in the royal welcome accorded and in the wholesome entertainment provided. There were more than a hundred persons present at this meeting. Many of the doctors brought their wives. The visiting ladies were splendidly entertained by the wives of the local physicians. The morning hours were devoted to visiting various places of interest about the city. The Blackwell Country Club opened its fine golf course to the use of those who wished to play. At 12:30 p. m. the doctors and their wives met together at the gymnasium of the Presbyterian Church where a first class, wholesome lunch was provided. Some solos and music added much to the pleasantness of the hour.

The afternoon session of the society was convened at 2 p. m. in the lecture room of the Blackwell Hospital. Some very interesting clinical cases were presented. Those who were especially interested in eye, ear, nose and throat work gathered in a room on the main floor of the hospital to study some cases in this specialty. The others devoted some time to the study of some medical cases of unusual interest. The scientific programme was as follows:

Paper—Cholecystitis. By Dr. E. F. Day, Arkansas City, Kan. Discussion opened by Dr. Snyder, Winfield, Kan.

Paper—Some Remarks on the Diagnosis and Management of Pulmonary Tuberculosis. By Dr. L. J. Moorman, Oklahoma City.

Address—Diseases of the Mind and Brain. By Dr. Karl A. Menninger, Topeka, Kan.

At 6 p. m. the physicians and ladies came together again at the Presbyterian gymnasium where a bounteous, hygienic dinner

was served. The High School Orchestra furnished music. Some select readings by one of the High School pupils presented intimate views of real life and caused much laughter.

The evening session convened at 7:30 p. m. in the auditorium of the High School and to this the public was invited. The following was the programme of the evening:

Address—Public Health Problems. By Dr. A. E. Davenport of Oklahoma City, State Health Commissioner.

Paper—Congenital Hip-Joint Dislocations, Pathology and Symptomatology. By Dr. Robert Werndorff of Wellington, Kan.

Address—Mental Hygiene. By Dr. Karl Menninger of Topeka, Kan.

It was felt by all that the Blackwell meeting was a most interesting and profitable one, and it was the general opinion that the association meetings of the past year had been a grand success. Through them the fraternal spirit has been broadened and strengthened, and the association of the different county societies has afforded splendid opportunity for the study and consideration of important scientific and medical problems which has proven highly beneficial to all. The Tri-County Medical Society has now become permanently established and will become more helpful to its members during the coming year. The next meeting of the association is to be held at Winfield, Kansas.

PRATT COUNTY SOCIETY

Pratt County Medical Society met March 5th, 8 p. m. at the Commercial Club room in Pratt. The meeting was called to order by the president, Dr. W. G. Maness of Preston. A paper was read by Dr. Harry Blasdel of Hutchinson on "Carcinoma." The importance of early recognition and treatment of pre-cancerous skin lesions was the first consideration. A partial list of these probably or possibly cancerous skin diseases includes: xeroderma pigmentosa, pigmented moles, melanoma, senile keratoses, rhodent ulcer and leukoplakia. An efficient operation for radical treatment of cancer of the lip with lymphatic treatment was described.

Drs. H. Atkins, W. F. Bernstorf, J. R. Campbell, Athol Cochran, P. K. Gaston, M.

C. Jenkins, W. G. Maness, G. E. Martin, and E. M. Ireland were present.

On April 2d Pratt County Medical Society met at the usual time and place. Vice-President H. Atkins called the meeting to order. Dr. Ralph H. Major, head of the Department of Internal Medicine of Kansas University Medical School at Rosedale, read a paper on the "Insulin Treatment of Diabetes." He is working with Toronto investigators to discover the possibilities and limits of the new remedy. The internal secretion of the pancreas is given hypodermically in standardized dosage and causes the urine of diabetics to become sugar free and there is also a rapid reduction of the blood sugar. Excessive reduction of the blood sugar causes convulsions so that it is necessary to control the use of the remedy with blood sugar estimations. A heretofore unknown recovery from diabetic coma was recorded, and several very striking improvements in cases with an otherwise hopeless prognosis. It is hoped that the pancreatic internal secretion of these patients may be stimulated or improved so that the continued hypodermic use of insulin may be finally discontinued. The method of preparation of this internal secretion was described. It is now prepared by Ely Lilly & Company under the trade name of Iletin.

Questions and discussion followed the paper until it was time for Dr. Major to take his train for Rosedale.

Drs. H. Atkins, W. F. Bernstorf, C. F. Bucklin, J. R. Campbell, Athol Cochran, P. K. Gaston, M. C. Jenkins, G. E. Martin, C. E. Phillips, and E. M. Ireland were present.
G. E. MARTIN, Secretary.

COFFEY COUNTY MEDICAL SOCIETY

The regular meeting of the Coffey County Medical Society was held in Burlington, April 5, 1923. It started off with a "feed" at the National Hotel after which we met in Dr. Gray's office and listened to case reports and interesting discussions on similar cases. After about three hours discussion the old officers were re-elected and one new member was voted into the society—Dr. Connor of Waverly who moved into the county within the last year. The next meeting will

be a picnic at LeRoy and is to include the doctors and their wives.

The doctors present at the meeting were: Salisbury, Norris, Gray, McConnell, Manson, Thines, of Burlington; Fear and Connor of Waverly; Herring and McGinnis of LeRoy.

A. B. McCONNELL, Secretary.

FINNEY COUNTY SOCIETY

At a regular meeting of the Finney County Medical Society held Dec. 27, 1922, the following officers were elected: Dr. Charles Rewerts, President; Dr. G. R. Hastings, Vice President; Dr. C. O. Rognie, Secretary; Dr. A. L. Brown, Treasurer. Dr. Rewerts read a paper on small pox at this meeting.

Early in January Dr. Rognie moved to a new location and we have not been able to find all the records of this society, so we do not know whether or not you have been notified of the result of this meeting. At a regular meeting of the Society, March 28, 1923, Dr. A. L. Brown was formally elected as secretary and treasurer.

Owing to the epidemics of flu in this neighborhood we have not been able to meet as often as we wished but hope we may get together more frequently from now on.

ALBERT L. BROWN, M.D., Secretary.

DEATHS

Dr. R. W. Maintz, Linn, aged 59, died April 2, 1923, from paralysis. He was graduated from Washington University School of Medicine in 1889 locating in Linn the same year. He served one term in the Kansas Legislature and took an active part in all worthy public enterprises. He was a member of the County and State Medical Societies.

Notice of Examination for Entrance Into the Regular Corps of the United States Public Health Service

Examinations of candidates for entrance into the Regular Corps of the U. S. Public Health Service will be held at the following named places on the dates specified:
At Washington, D. C. July 9, 1923

At Chicago, Illinois. July 9, 1923

At San Francisco, Cal. July 9, 1923

Candidates must be not less than twenty-three or more than thirty-two years of age, and they must have been graduated in medicine at some reputable medical college, and have had one year's hospital experience or two years' professional practice. They must pass satisfactorily, oral, written, and clinical tests before a board of medical officers and undergo a physical examination.

Successful candidates will be recommended for appointment by the President with the advice and consent of the senate.

Requests for information or permission to take this examination should be addressed to the Surgeon General, U. S. Public Health Service, Washington, D. C.

—B—

Required by the Act of Congress of August 24, 1912, of the Journal of the Kansas Medical Society Published Monthly at Topeka, Kansas, for April 1, 1923

State of Kansas, County of Shawnee, ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared W. E. McVey, who, having been duly sworn according to law, deposes and says that he is the editor of the Journal of the Kansas Medical Society and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

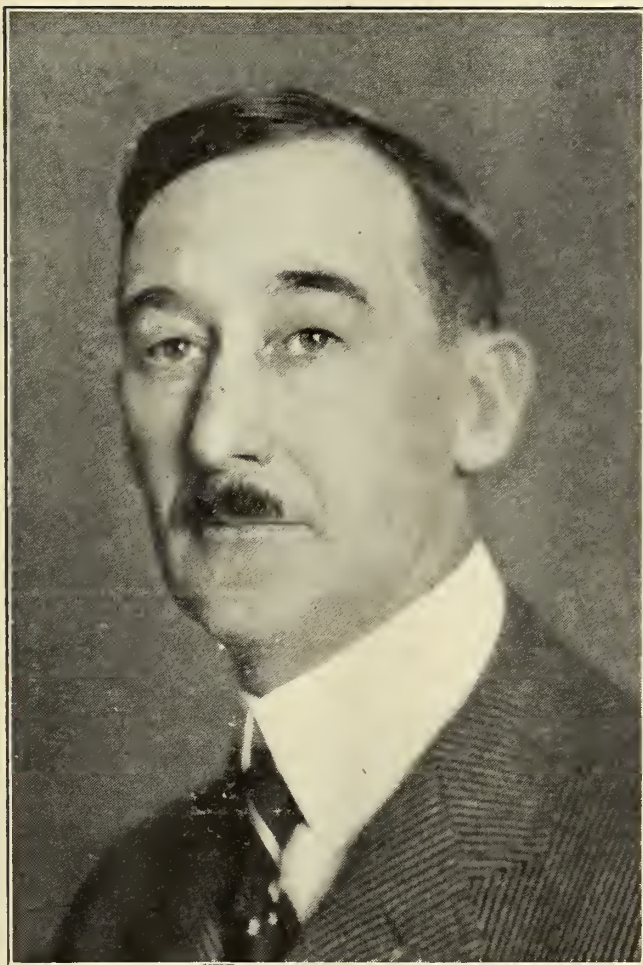
Name of	Post Office Address
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2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

Kansas Medical Society, M. L. Perry, Topeka, Kansas, President; Dr. J. F. Hassig, Kansas City, Kansas, Secretary; Dr. Geo. M. Gray, Kansas City, Kansas, Treasurer.

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PRESIDENT'S ADDRESS

Race Improvement

M. L. PERRY, M.D., Topeka, Kansas

Read before the Annual Meeting of the Kansas Medical Society at Kansas City, Kansas, May 2, 1923.

I feel that my first duty at this time is to express to the members of this organization my keen sense of appreciation of the honor conferred upon me at our last annual meeting. The honor of being president of the Kansas Medical Society is one of which any man may well be proud and I consider it the crowning event of my fairly long professional life. But

"Cords that vibrate sweetest pleasure
Thrill the deepest notes of woe"

and along with this feeling of pride and self-congratulations there has been constantly lurking in the back-ground the disturbing knowledge that there was a presidential address to be prepared in accordance with a mandate of the Constitution. The founders of the Society in their wisdom saw fit to insert into the Constitution under the section outlining the duties of the president, the clause that "he shall deliver an annual address at such time as may be arranged." We do not know what their motives were in making this provision. They may have been imbued with the idea that the members, realizing that they would be forced by common courtesy to listen to the address, would on that account exercise more care in the choice of a presiding officer; or possibly it was done with the thought that such an infliction would be a fitting penance to pay for having made an unwise selection. I fear that the present occasion may lead some to accept the latter explanation. At any rate, the responsibility having come to me it was not for me to reason why but to accept it and endeavor to present to you something of interest and possibly of value and worthy of the occasion.

In casting about for a subject I naturally turned first to the condition of the Society itself to see if there were anything of outstanding importance in the way of problems to be met and solved, dangers to be avoided or overcome, or recommendations to be made for the future. In this direction there appeared to be nothing calling for immediate action nor anything to occasion uneasiness or apprehension. Our membership is grow-

ing, our finances are on a sound basis, there are no factional strifes nor internal dissensions within our midst, and we are fortunately free from that bane of organized medicine, medical politics. My next thought was to attempt the preparation of a scientific paper dealing with some phase of the particular field of medicine with which I am most familiar, viz: Psychiatry. Feeling that such a subject would be of a more or less limited interest it was abandoned for one appealing more to the profession as a whole. Realizing that the physician is always to be found in the forefront of any movement for the betterment of society and that the knowledge he gains from his close and intimate professional association with all classes necessarily makes him interested in the social uplift and particularly qualified to assume the role of leader in any such movement, I have chosen as the subject of my address the much discussed but vitally important question of Race Improvement.

Pope in his immortal essay says:

"Know then thyself, presume not God to scan,
The proper study of mankind is man."

Following the advice of the poet let us give our attention for the time to man as a race. It may be taken as axiomatic that in mundane matters perfection is never attained and it naturally follows that improvement is desirable. When we consider the present state of our civilization and note the remarkable strides that have been and are being made in the scientific world and in our social and economic life we are inclined to think that little attention need be given to this subject of race improvement and that our progress is all but phenomenal. Such an opinion is justified if we look at one side of the picture only, but a closer study of the question shows that there is another and less satisfying side wherein are unmistakable signs of a need of race betterment. On this, the reverse side of the picture, we see a diminishing birth rate which is already beginning to give students of sociology grave concern and an ever-increasing number of neurotic, defective, and delinquent individuals. If the diminution in birth rate were relatively the same for all classes it would of itself not be a cause for alarm. It is undoubtedly better to have fewer children to the family and have them properly

reared than a larger number with limited advantages and many allowed to just grow up. We do not need to consult statistics but only to look about us to see that it is in the so-called higher ranks of society composed of those who are better fitted from an intellectual as well as financial standpoint to rear children that the birth rate has fallen to the minimum, while it is among the poorer, more illiterate and especially the more or less defective that the largest families are found. Professor Terman of Leland Stanford University in a recent article says: "Intellectually superior families are no longer producing as rapidly as formerly. Their birth rate is already far below that of the socially incompetent. The average feeble-minded individual leaves two or three times as many offspring as the average college graduate. This biological cataclysm, silent but none the less fateful, is rapidly spreading to all the civilized countries." * * * As a nation we are faced by no other issue of comparable importance." It is possible that our present-day manner of living has something to do with this rapid diminution of the birth rate among those in better circumstances as animal experimentation has demonstrated the fact that certain animals when fed an improper or unbalanced ration will become sterile, or at least cease to propagate until their diet is corrected. It is a well known fact that many wild animals in captivity do not breed with the same fecundity as in their native state and some thus kept confined produce no offspring. There may be many unknown environmental influences at play bearing on this problem which would offer an attractive field for medical workers. Be that as it may we as medical men know that by far the most important cause of this deplorable decrease in the birth rate among the more highly educated and better to do of our population is the practice of various methods of birth control by a large number who insist upon having their full sexual life but are unwilling to assume the burden and responsibility of parentage. Here it seems to me that the physician in his accustomed role of confidential friend and adviser can be of distinct service to the race in helping to restore the natural balance in the birth rate in the different strata of society.

Turning now to the neurotic, defective, and delinquent we find a mighty host who are in no way helpful but are a distinct burden to the body politic. The feeble-minded come first in point of numbers of those generally recognized as being afflicted with defect or disease. Professor Laughlin of the Eugenics Record Office, one of the best authorities in the country on sociological matters, at a hear-

ing before the committee on immigration and naturalization of the House of Representatives in November, 1922, gave as a result of a number of surveys the estimate that there was one feeble-minded person to each two hundred of the general population or more than 500,000 in the United States, only about five per cent of whom are segregated at present. One to five hundred has long been considered conservative in estimating the number of epileptics. On this basis there are in the entire country 200,000 persons afflicted with this malady. The number of insane is about midway between that of the feeble-minded and epileptic or conservatively estimated at 300,000. Professor Laughlin testifying further before the above mentioned committee made the statement that, "We find that in the United States about 1,000,000 persons are constantly or have recently been in custodial care by the state or municipality or in private institutions other than hospitals for the temporarily sick or injured." The expenditures of the various states on account of those confined in custodial or residential institutions is not less than \$100,000,000 annually. Statistics relating to crime and criminals vary greatly in different states and countries because of the difference in criminal codes, the enforcement of laws, etc. Nelson's encyclopedia is authority for the statement that for the year 1920, there were in the United States 65,040 persons convicted of crimes punishable by incarceration in some form of penal institution. This number would be multiplied several fold if it were made to include those actually guilty of crime but not convicted and those of criminalistic tendencies.

In any study of these unfortunate and undesirable types we encounter at once divergent views on the mooted question of the relative importance of heredity and environment in their genesis. Much can be said on each side of the controversy and both factors undoubtedly have a very great influence on the lives of all of us. I wish, however, at this time to record my own belief in the over-whelming importance of heredity over environment in the development of the individual and the race. The more study I give to this subject and the wider my range of observation the more thoroughly fatalistic I become. One reason why the laws of heredity impress us less forcibly when applied to the human race is because we are usually able to observe personally only two or three generations of our fellows whereas we are accustomed to seeing many generations in the lower animals. Another obstacle encountered by many people in the study of heredity and the proper evaluation of its influence is that they apparently shut their eyes to the fact that man is essen-

tially an animal albeit the highest in the scale. This is neither the time nor the place to consider the theory of evolution nor to enter into a metaphysical discussion of the possession by man of a soul and immortality which would put him in quite a different category from the brutes. Granting the truth of the latter hypothesis and admitting his more complicated brain structure and therefore higher mental endowment, there is still no reason why man should be the sole exception of all the animal kingdom to nature's inexorable laws of heredity as found throughout the lower animals. The germ plasma of the male and female each possesses certain determiners and when united these determiners act and react upon each other producing in the new individual a complex blending of the physical, mental and moral traits of the two ancestral strains. Environment, particularly education, can influence these personal attributes to a varying degree, the moral considerably, although I believe more or less superficially, the mental to a somewhat less degree and the physical least of all. All this you may say is more or less idle speculation but let us see if statistics, the conclusions of sociological students, and our own observation will not bear out our contention. As regards physical anthropology little need be said as the dictum that like begets like in this particular field is accepted by practically everyone. Every stock breeder no matter how illiterate he may be makes use of this biological principle in raising the special kind of animals he desires. A close study of the subject will show that the same laws governing the transmission of physical traits apply to man as to other animals. Scientists have demonstrated definitely that certain physical traits in the human such as the pigment in the iris and curliness of the hair are dominant, while a lack of pigment, or blue eyes, and straight hair are recessive and that these qualities are transmitted in accordance with the well-known law of Mendel.

When it comes to the question of transmissibility of mental and moral attributes we do not find the same unanimity of opinion, many denying that such traits are inherited but are developed from environment. These traits being so poorly developed in the lower animals their transmission is much less noticeable than the physical and yet it is in evidence to a considerable extent if we only look for it. Anyone who raises cattle knows of the nervous temperament of the Jersey, the placidity of the Holstein, and the phlegmatic disposition of some of the beef strains. The contrast between the temperamental and high strung racer and the lethargic draft horse is

very marked and yet it is well known that the two types breed true. The extraordinary development of the olfactory sense in tracking dogs is certainly an inherited quality. Turning to the human race we find a large array of statistics and many statements from students of sociology tending to prove that both mental and moral attributes are transmissible. Professor Ternan in discussing the relative importance of heredity and environment in the development of the intellectual faculties as determined by individual psychology, introduced by Binet and further elaborated by the group tests used in the army during the late war and in the testing of thousands of American school children, says: "The IQ. (intelligence quotient or the ratio of mental age to life age) is not chiefly a product of formal instruction. Schooling doubtless affects it to some extent, how much psychologists are not agreed. The writer can find little evidence that ordinary inequalities of home environment and school training, such inequalities for example as obtains in the average small city of California, invalidates the IQ. very materially. Twice he has supervised experiments designed to ascertain how much a child's IQ. could be improved by intensive training. The results in both cases were entirely negative. The special classes for backward children in the public schools are such experiments on an enormous scale. No other pupils in our public schools are taught in such small groups or by such able teachers. But rarely do the IQ's of children given these special advantages show significant improvement. Generally speaking once feeble-minded, always feeble-minded; once dull, always dull. Intelligence is chiefly a matter of native endowment. It depends upon physical and chemical properties of the cerebral cortex which like other physical traits are subject to the laws of heredity." A case illustrating this point in a most striking and convincing manner came under my observation within the last month. I was consulted by the anxious and distressed relatives of a man as to what was best to do with him. The following history was elicited. The patient, an illegitimate child of parents physically healthy but of rather poor mental endowment, although not considered feeble-minded, had been adopted when three weeks old by a childless couple of means who were distinctly above the average intellectually. As the child grew up he was given unusual advantages in the way of association and schooling. He was placed in several excellent schools but had to be removed from each in turn because of his inability to take the regularly prescribed work and keep up with his classes. His fond

and doting adopted parents finally awoke to the realization that their son was innately defective and not capable of taking an education, although he had grown up to be a stalwart and rather handsome youth. He is now a man of 23 but with a mental age of probably ten years and is talking of wanting to get married. As he is well provided for financially and has not been deprived of his civil rights by any court procedure he will probably sooner or later carry out this desire. It does not take a prophet to predict what the harvest will be. This tendency to transmit mental traits appears to be particularly marked in neurotic and defective types. It is pretty well established that feeble-mindedness is recessive in action and follows Mendel's law by which it would be impossible for the union of two feeble-minded individuals to produce any but feeble-minded children. Every psychiatrist will tell you that a bad heredity is one of the most potent factors in the causation of insanity, epilepsy and allied disorders.

Much less study and scientific investigation has been given to the question of the transmission of moral qualities, but as they are largely dependent on the development of the intellectual faculties, particularly the will and inhibition, they would of course to the extent of this dependency be governed by the same laws. Dr. Truman Lee Kelley in a study of the "Mental Aspects of Delinquency" says, "The weight of evidence in this study warrants the belief that heredity is the largest and most important factor in that it supplies the nature that is potentially delinquent." Studies of the genealogy of certain families showing a criminal tendency extending sometimes through many generations have been made and are to say the least very suggestive. Such a family is that of the notorious Jukes who lived in New York State, whose history is a monotonous, sordid story of harlotry, thievery, pauperism and degeneracy. A close analysis of this family would seem to indicate that different branches possessed determiners for their individual type of crimes. According to Davenport, "The difference in the germ plasm determines the difference in the prevailing trait." The same writer is authority for the statement that this family had cost the State of New York over a million and a quarter dollars in the seventy-five years preceding 1877. One can only imagine to what a stupendous sum it has mounted at the present time. It is interesting and instructive to contrast the descendants of Jonathan Edwards with those of the Jukes family. Of the progeny of this celebrated divine nearly 1500 have been identified comprising a long

list of scholars and professional men of high rank and no one of them is known to have been convicted of a crime. It is unnecessary to multiply statistics, suffice it to say that an analysis of the records of any of our own State institutions will give very convincing evidence of the tremendous influence of heredity among the insane, epileptic, feeble-minded, and delinquent.

I do not want to appear as an alarmist nor as one with the biased judgment of a hobby rider, but I cannot understand how anyone giving thought to the subject can fail to be concerned over the social outlook. If we accept the findings of most students of sociology we must admit that we are slowly but surely drifting in the wrong direction. If they are mistaken all well and good, but if not and there is really danger ahead what shall we do about it? We have recently heard much of the tremendous economic loss to the nation on account of our unpreparedness to meet a great world problem which thrust itself upon us. Shall we not profit by that experience? Shall we in the smug sense of our own present-day safety forget that lesson and disregard the teachings of history? We should bear in mind that ours is not the only civilization the world has known. There have been a number, some quite as highly developed as our own along certain lines, which have risen, flourished, decayed, and disappeared. Is it not time we should heed the note of warning sounded by Goldsmith who was philosopher as well as poet when he wrote a century and a half ago:

"Ill fares the land to hastening ills' a prey
Where wealth accumulates and men decay."

We should remember that sociologic changes like ponderous bodies are slow of movement. Is it not time that we were waking up to the situation and considering what were best to do for the future of our country and the race? The problem as I see it is an imbalance in the birth rate of the different strata of society affecting to a greater extent the more stable and intellectually more highly developed classes, the number of whose children is rapidly approaching the point of mere replacement, while the fecundity of the socially less desirable remains much less impaired; and which imbalance if not corrected must by the laws of heredity lead in comparatively few generations to a state wherein there will be a preponderance of social inferiors in our population.

The solution of the problem can be accomplished only by increasing the birth rate of the higher, more desirable class or diminishing it in the lower and more incompetent, or possibly a combination of the two measures.

Several methods have been advanced by sociologists looking to the carrying out of each of these remedies. There has been quite a movement in many sections favoring the state endowment of motherhood but some fear that this would have a disastrous effect on the family life. Professor McDougall of Harvard believing that, "The economic factor is of dominant importance" has for several years advocated a plan which practically amounts to subsidizing the families of the more stable and desirable class by providing for a certain percentage increase in the family income for each child born. Others would pin their faith to an educational propaganda particularly along the lines of the laws of heredity and eugenics, and appeal to the sentiment and patriotism of a more enlightened public. Little may be expected from such efforts but whatever is thus accomplished will be due very largely to the wise counsel and influence of the medical profession.

A number of measures have also been proposed for decreasing the birth rate in the lower strata of society. Professor Knight Dunlap and others have expressed a hope that good might come from contra-ceptive methods if they were more widely known and understood. They seem to overlook the fact that the very class they seek to affect by such methods is made up of those who from a lack of a sense of responsibility, judgment, and self-control will not put them into practice.

I would be quite inclined to think that among such people a little knowledge along this line would be a rather dangerous thing. Segregation has been tried to a greater or less extent for a hundred years. It has cost a tremendous sum to segregate and care for only the more pronounced types, and to include all who should be segregated under such a system would require such a colossal fund as to make it entirely impractical. The enactment of more stringent marriage laws has been offered as a solution. This suggestion has some merit and will have a tendency in the right direction. There remains to be discussed one other measure for the correction of this disgenic trend, the only one which in my judgment offers any hope of solving the problem, viz: sterilization. A Kansan, Dr. Pilcher, was among the first to practice sterilization for eugenic reasons. It was in 1898, only twenty-five years ago, that Dr. Pilcher operated on some fifty boys and girls, all inmates of the Kansas State School for Feeble-Minded. He was unfortunate in the selection of the kind of operation he performed and many of the older members of this Society can recall what a furor it raised throughout the State. The Doctor set the

people thinking however, and incidentally coined a new word, at least in the Kansas language, that of Pilcherism. There is now an act on the statute books of our State by which sterilization may be done for purely eugenic purposes in state institutions. During the last two years we have performed the operation of vasectomy on seventy-three men and salpingectomy on thirty-five women, all patients in the Topeka State Hospital. We are doing these operations more and more frequently as the time goes by and it will very soon become the policy of the institution to sterilize all men and women patients under forty-five and all men over that age whose wives are still in the child-bearing period before they leave the hospital. It has, indeed, been surprising to note the co-operation we have received not only from the relatives but from the patients themselves, a number of whom have requested that they be operated on before returning to their homes. Such laws had been enacted in fifteen states prior to January 1, 1921, and the laws were still in effect in nine states at that date. In several of these states the law has not been utilized but in others quite a number of sterilizations have been done. The California officials have been especially active in this matter and to the above mentioned date 2,558 persons had been sterilized in California, including insane, feeble-minded, and criminals. I am not so visionary as to believe that we are going to eliminate all the neurotics, defectives and criminals by operating our institution cases but it will certainly help and I look upon it as the keen edge of the entering wedge. When we consider the change in the attitude of the people on this subject in the short span of twenty-five years what may we not expect in the next twenty-five years or in a generation or two. Our social laws are becoming more and more radical and we hear much less of the vaunted talk of personal liberty than we used to. The rights of society are encroaching more and more upon those of the individual and it will be recognized that society, like the individual, is justified in extreme measures in self-preservation. I believe that the day is surely coming and some of you younger members may live to see it when sterilization laws will be extended to include non-institution people and society will be forced in self-defense to permit the sterilization of all who are found to be physically, mentally or morally unfit to propagate children. Upon one point we may rest assured, that whatever measure or measures are proposed along this line the general public will turn to the family physician for advice and guidance. Much will depend upon the wis-

dom of the advice given. It is a noble responsibility which will be laid upon us and upon those who follow us but I have an abiding faith that the medical profession now and in the future will live up to its traditions and exercise a powerful influence for good in the settlement of this momentous question.

R

Further Observations on the Insulin Treatment of Diabetes.

RALPH H. MAJOR, M.D

Professor of Medicine, University of Kansas School of Medicine.

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Diseases have a history often interesting, at times dramatic, and always closely interwoven with the development and the achievements of man. Epochs in the history of disease are often epochs that mark the rise, the downfall or the actual extinction of certain races of man.

The great epochs in the history of diabetes, the tripod upon which all modern treatment of this disease rests, is the discovery of sugar in the urine, the discovery that removal of the pancreas produces diabetes, and the isolation of an active hormone from the pancreas which is a specific in the treatment of diabetes. These three eras in the history of diabetes cover a period of one hundred and forty-seven years, and do not present themselves as three isolated unconnected discoveries, but rather as three closely related events connected by a chain of brilliant and important clinical observations and laboratory experiments.

Matthew Dobson in 1775 evaporated four pounds of urine from a diabetic patient and obtained a whitish cake that weighed four ounces, two drams and two scruples. This cake he wrote "melt sweet, like brown sugar and could not be distinguished from sugar, except that the sweetness left a slight sense of coolness on the palate."

The discovery of pancreatic diabetes by Mering and Minkowsky, and the proof that complete removal of the pancreas is followed by a severe and fatal diabetes, was the first concrete evidence pointing to the pancreas as the organ involved in this disease. This epoch-making discovery of Mering and Minkowsky was the result of the chance observation of Nanyn, who noted that the urine of dogs whose pancreas had been removed, attracted great swarms of flies, and it was again a vindication of the famous remark of Pasteur that "in the fields of observation, chance favors only the prepared mind."

The third epoch in the history of diabetes is the discovery of Banting and his colleagues,

of insulin, the active hormone of the pancreas. This preparation was at first obtained from the fetal pancreas, but later a potent preparation was made from the adult beef pancreas. This product, also called "iletin" in the United States, has had extensive clinical trial during the past six months, and must be administered subcutaneously, since it is apparently destroyed in the digestive tract. It should be recalled that this preparation is standardized by injecting it into rabbits, one unit being the amount that lowers the blood sugar to 45 mgs. per 100 cc. within four hours.

We began using this preparation in January, 1923, at the Bell Memorial Hospital, and up to the present time have treated fifty cases of diabetes mellitus—most of them severe or moderately severe cases. We have been convinced of its ability to abolish glycosuria, to lower the blood sugar, to abolish ketonuria, and to relieve the cardinal symptoms of the disease. It has a marked effect in clearing up lipemia and hypercholesterinemia and also causes a return of the alkali reserve to normal. Since the result of these treatments can be illustrated with especial clarity by the use of charts, a few typical examples of the series have been chosen to bring out the results of insulin therapy. The blood sugar determinations were made by the method of Folin, the urinary sugar by the method of Benedict and the blood cholesterol by the method of Myer and Wardell.

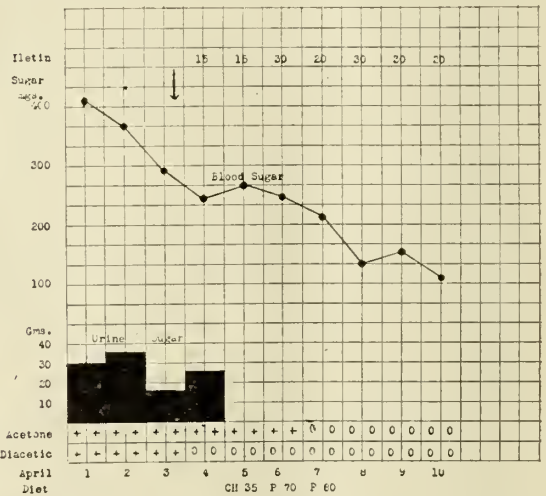


Figure 1.—This chart shows the effect of iletin therapy in rapidly reducing the blood sugar to normal and in clearing up glycosuria and ketonuria.

The chart shown in Figure 1 is taken from the records of a young man, aged twenty-four, who had been suffering from diabetes for one year before admission to the hospital and had been on a strict diet. Upon admission to the hospital he was placed on a diet of 35

grams of carbohydrate, 70 grams of protein and 80 grams of fat and the iletin injections were begun the third day after admission. This patient who had been excreting from 15 to 35 grams of sugar in twenty-four hours, became sugar free on the day following institution of the iletin therapy. The diacetic acid disappeared from the urine twelve hours after the beginning of iletin therapy and the acetone disappeared in three days. The blood sugar also registered a very prompt fall and ten days after admission, the patient's blood sugar had fallen from 410 to 110 mgs. per 100 cc. This patient was kept under observation for several weeks and never showed any further hyperglycemia or glycosuria.

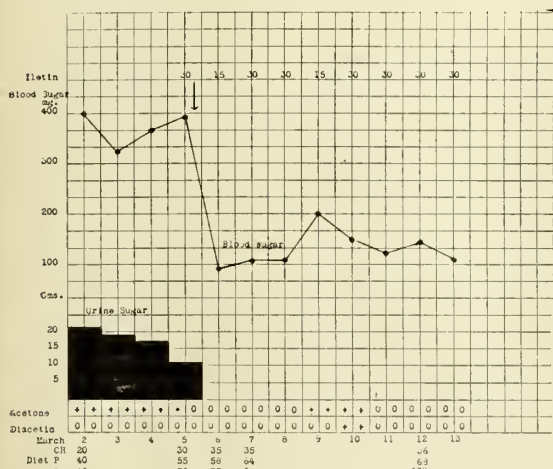


Figure 2.—A chart showing the effect of iletin therapy on a patient whose diet was constantly increased. Note the prompt fall in blood sugar and the disappearance of glycosuria following injection of iletin.

The patient whose course is shown in Figure 2 was a young man, aged thirty-one, suffering from a severe diabetes of one year's duration. When he was first admitted to the hospital he was extremely weak, his blood sugar was 400 mgs. per 100 cc. and the carbon dioxide tension was 28 volumes per cent (Van Slyke). The third day after admission, iletin therapy was commenced and a very prompt fall in his blood sugar was the result. Glycosuria was abolished immediately and the blood sugar continued to fall in spite of the gradual increases in diet. This patient gained thirty pounds in two weeks and was discharged from the hospital in excellent condition.

Figure 3 illustrates the results of iletin therapy in a case of juvenile diabetes of one year's duration. This boy, aged sixteen, when admitted to the hospital was on the verge of coma and could be aroused only with great difficulty. The blood sugar on admission was 660 mgs. per 100 cc., the carbon dioxide

tension showed the remarkably low reading of 6.7 volumes per cent (Van Slyke). Following the injection of 40 units of iletin in

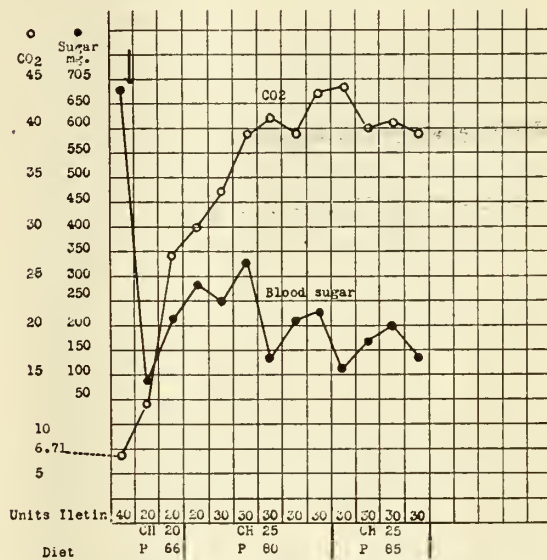


Figure 3.—This chart shows the prompt effect of iletin in reducing hyperglycemia and restoring the alkali reserve.

two doses, the patient's blood sugar the following morning had fallen to 85 mgs. per 100 cc. and the carbon dioxide tension had risen to 12 volumes per cent. This boy's blood sugar showed some subsequent rises to fairly high values, but soon came down and remained around a normal figure. The carbon dioxide tension rose rather rapidly and remained around 40 to 50 volumes per cent. This patient gained eight pounds in ten days and was discharged from the hospital in good condition.

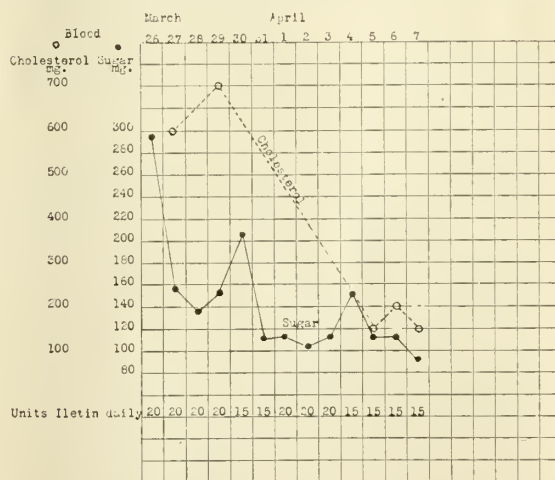


Figure 4.—This figure shows the effect of the injection of iletin upon the blood sugar and the blood cholesterol in a patient suffering from a very marked lipemia.

We have had seven patients showing a gross lipemia, three of them to a very high degree. This lipemia disappeared very promptly following the use of iletin. The determinations of the cholesterol content of the blood serum was made in all of these cases and coincident with the disappearance of the lipemia, there was also a prompt drop in the cholesterol. Figure 4 illustrates the effect of iletin injections upon the hyperglycemia and hypercholesterinemia in a young man aged twenty-six. This patient on admission to the hospital showed a blood sugar of 294 mgs. and a cholesterol of 600 mgs. per 100 cc. Following treatment with iletin the blood sugar came down to normal very rapidly and the cholesterol content of the blood serum fell to normal. These observations are of interest in showing that a disturbed carbohydrate metabolism may be the basis of lipemia, and hypercholesterinemia, and that in such cases, when the carbohydrate metabolism becomes normal, these two accompanying phenomena disappear.

We have treated four cases of very severe juvenile diabetes with good results. Two cases of gangrene of the feet have cleared up promptly. Two patients with extreme emaciation have been placed on full diets and gained strength and weight rapidly, one patient gaining thirty pounds in two weeks, the other gaining twenty pounds in ten days. We have used iletin in five cases of diabetic coma. Two of these patients when first seen were moribund and died shortly after admission to the Hospital. The third patient was a boy of three who died five hours after first seen. Two patients have recovered from complete coma. One patient was unconscious for thirty hours, the other patient was unconscious only six hours. We were able to begin the treatment of the second patient within one hour after the onset of coma, while the first patient had been unconscious for nine hours when first seen.

Figure 5 is a chart illustrating the changes in the blood sugar and carbon dioxide tension in the second patient who recovered from diabetic coma. This patient was a man aged forty, who had suffered from diabetes mellitus for three years. After he went into coma his carbon dioxide tension showed the extremely low value of 5 volumes per cent. Because of this marked acidosis, he was given 40 grams of soda bicarbonate in addition to 180 units of iletin. The result of this combined treatment was very striking. Within twenty hours the patient's blood sugar had fallen from 606 to 38 mgs. per 100 cc. and the carbon dioxide tension had risen from 5 to 53 volumes per cent (Van Slyke). This

patient after recovering from coma was very weak but within three days was sitting up in a wheel chair and moving around the hospital. These two patients illustrate in a strik-

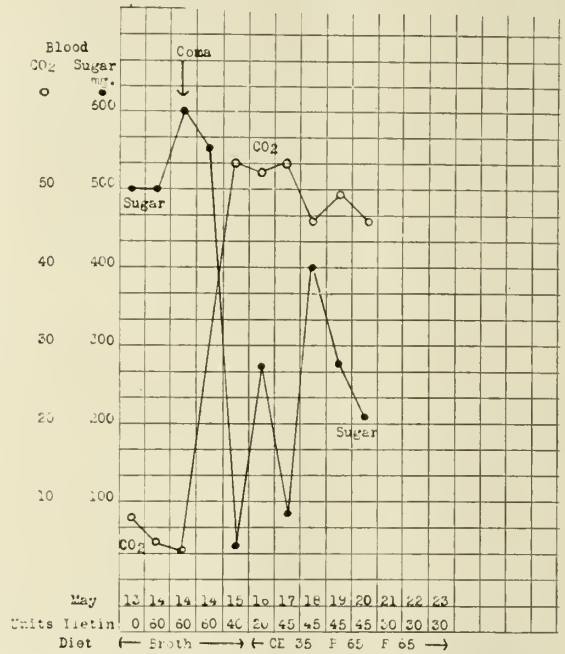


Figure 5.—A chart showing the effect of iletin in a patient recovering from diabetic coma. Note the marked fall in blood sugar and equally striking rise in the carbon dioxide tension.

ing fashion a therapeutic result never achieved in diabetes mellitus before the use of iletin. Four other patients when treatment was instituted were on the verge of coma, showing extreme drowsiness, symptoms of air hunger and marked ketonuria. These symptoms promptly disappeared under treatment.

Since iletin, if injected in sufficient amounts into animals, will produce a marked lowering of the blood sugar, convulsions and death, we must constantly keep in mind the danger from an overdose of this preparation. We have not had up to the present time any of these serious complications, although several patients have shown sweating, three or four hours after the injection of iletin, have shown weakness, nervousness and profuse sweating, symptoms which often precede the more serious ones. In all of the patients these symptoms have been promptly relieved by drinking orange juice. This danger of producing a hypoglycemia emphasizes the absolute necessity of controlling the dose of iletin by frequent determinations of the blood sugar.

It is unfortunate that the term "cure" has been applied by the lay press in speaking of insulin. It does not abolish dietary restric-

tions in a diabetic, although its use permits the patient to follow a much more liberal diet than would be possible otherwise. It unquestionably permits many severe diabetics "with a progressive course downward" to live in comparatively good health and comfort, instead of dying in coma. It is premature to speak of insulin as a "cure" for diabetes. There is no doubt, however, that it is easily the greatest single advance that has ever been made in the therapy of diabetes mellitus.

—R— Insulin In Diabetes

DANIEL R. THOMAS, M.D.

Assistant Resident Internist, Halstead Hospital,
Halstead, Kansas

Read before the Harvey County Medical Society,
March 5th, 1923.

In one of the current periodicals, early in 1922, appeared an article on pancreatic Extracts in Diabetes by Doctors F. G. Banting and C. H. Best, of the physiological department of the University of Toronto. This article attracted the attention of the Medical world; and since that time interval publication of articles relating to the same subject have been received with increasing interest.

The articles have dealt with the internal secretion of the pancreas, its function, means of obtaining it, results obtained by its administration to diabetic animals, and subsequently its results in human diabetics. From a review of the literature, I shall give you a brief history of its discovery, method of preparation, and the results obtained in its clinical use.

In 1884 Arnozan and Vaillard proved that ligation of the pancreatic ducts resulted in the degeneration of the pancreatic acini, with round cell infiltration, and in about fourteen days a replacement of the parenchyma with fibrous tissue.

In 1889 Mehring and Minkowski found that total pancreatectomy in dogs resulted in a severe and fatal diabetes. Following this other observers found similar results in various types of animals. Thus was definitely established for the first time the relation of the pancreas to glycosuria.

In 1902 Scobolew found, that in this degeneration of the acini, no glycosuria developed until the Islands of Langerhans were involved, from thirty to one hundred and twenty days after the duct ligation.

In 1909 Laguesse first suggested that these islands might form an internal secretion.

In 1917 Kamimura, in his work with rabbits, discovered that as long as the islands in the ligated pancreas remained normal, no glycosuria resulted.

Even as late as 1921, Paulesco demonstrated

that an aqueous solution or extract of the entire pancreas, given intravenously, had no effect on the blood or urine sugar, or the urea and acetone bodies.

In November, 1920, Dr. F. G. Banting—then an assistant in Physiology in Western University, London, Ontario—while reading of previous pancreatic experiments, first formulated the hypothesis of obtaining the secretion of the islet tissue alone. The experiments previously mentioned furnished him with proof of three things, viz: 1. That the acinous tissue was not connected with carbohydrate metabolism; 2, that the extract of the whole gland was a failure in reducing blood and urine sugar; 3, that the Islands of Langerhans were essential to carbohydrate metabolism.

The third being proven, two deductions were made regarding the action of the Islands of Langerhans, viz: 1, by a modification of the blood in its passage through the islet tissue—a detoxicating station as it were; or 2, the production of an internal secretion. With a firm belief in the latter, he interviewed Dr. J. J. R. MacLeod, Professor of Physiology at the University of Toronto. Dr. MacLeod was so impressed with the younger man's theory, and enthusiasm, that work was begun in the University Laboratories in May, 1921. The object of this work was to obtain a pure extract of islet tissue, and observe its therapeutic effects.

The pancreatic ducts of a number of dogs were ligated under general anesthesia; and at the end of ten weeks a complete pancreatectomy was done. The animals were chosen between the ages of eight and sixteen months, for at this age the pancreas is less firmly fixed to surrounding structures than later; and consequently pancreatectomy more easily done.

The extract was prepared as follows: At the end of the ten week interval the dog was killed with a lethal dose of chloroform. The degenerated pancreas was quickly removed, and sliced into a chilled mortar containing Ringer's solution. The mortar was placed in a freezing mixture and the contents partially frozen. The frozen gland was then completely macerated and filtered through paper. After being raised to body temperature the filtrate was injected intravenously. Blood and urine sugar estimations were made both before and after the injections. Quantative urinary output was recorded.

The first report was given to the profession in the Journal of Laboratory and Clinical Medicine in the issue of February, 1922. This report embraced over seventy-five doses of the extract administered to ten different

diabetic animals. In every case the extract produced a marked reduction in the blood and urine sugar, and a distinct clinical improvement. The extent and duration of the reduction varied directly with the amount of extract injected. Rectal injections were found to have no effect. Incubation of the extract with pancreatic juice, or boiling it was found to destroy its efficacy. Extract made 0.1 per cent acid was found to be effective. That the results were not the phenomena of dilution was proven by three facts: 1, the hemoglobin percentage remained the same; 2, infusions of large amounts of saline solution did not affect the blood sugar percentage; 3, extracts of other tissues, similarly prepared and in like amounts, did not affect the blood sugar percentage.

Ibrahim had found that there was no proteolytic enzyme in the pancreas of the human foetus until after the fifth month. Carlson had found that pregnant bitches, when de-pancreatized, did not exhibit glycosuria until after the young were born, and then developed a severe and fatal diabetes. From these experiments it was concluded that the foetal pancreas prior to the fifth month should be rich in internal secretion, and yet free from the destructive and irritant proteolytic ferments. Foetal calf pancreas of less than five months was obtained and macerated in Ringer's solution, then filtered through paper. It would found to be entirely free from proteolytic enzymes, and gave the same reduction in blood and urine sugar as did the extract from the degenerated pancreas.

The investigators now decided to try and obtain the extract from the adult ox-pancreas because the other methods of obtaining it were so time consuming in preparation, and the supply was so limited. Extracts were made from the whole pancreas by slicing it into small pieces and placing it into 0.2 per cent hydrochloric acid in 95 per cent alcohol solution. It was then macerated and filtered, then evaporated to dryness in a warm air current. This left a dry resin-like residue, which was emulsified in Ringer's solution and then given intravenously. Similar extracts were made from the thyroid, thymus, liver and spleen. The pancreatic extract caused a fall in the blood sugar from 0.27 per cent to 0.12 per cent maintained for some hours. The administration of the thyroid extract caused a fall from 0.35 to 0.27 per cent temporarily only. The thymus extract caused a slight temporary fall. The liver extract had no effect whatever, nor did the splenic extract. Oral administration of the pancreatic extract caused a fall from 0.41 to 0.28 per cent in four hours, while half the amount (10 c. c.) intra-

venously caused a fall from 0.28 to 0.11 per cent in three hours. Similar extracts, which had been kept in a parchment dialyzer in running water for twelve hours caused a drop in three hours from 0.33 to 0.09 per cent. The extract residue washed twice in toluol, then in 95 per cent alcohol, dried, and emulsified in saline solution, caused a fall from 0.37 to 0.06 per cent in four hours. Concentrated foetal calf extract by mouth caused a drop from 0.38 to 0.35 per cent only in the blood sugar. Extract with the addition of tricresol was given and no untoward action resulted—proving that this could be used as a preservative. Extract which had been boiled with hydrochloric acid gave no reduction.

Having developed an extract from the adult ox-pancreas, eliminating the destructive action of the trypsin by alcohol extraction, and obtaining a good blood sugar reduction with the extract; it was next necessary to have a pharmacological assay of the potency. In previous experimentation it was proved that the extract lowered the blood sugar of the normal rabbit. It had also been proved that when the blood sugar was reduced too low the animal went into convulsive seizures with intervals of coma. This point in the rabbit was found to be 0.045 per cent. The standard unit of the extract was then taken as the amount necessary to reduce the blood sugar of a 2 kgm. rabbit to 0.045 per cent in four hours when given subcutaneously.

Experience having shown that the symptoms which arose from a severe hypoglycemia were relieved by the administration, intravenously or subcutaneously, of glucose gram per kilogram body weight; having found an extract that was capable of reducing the blood sugar; and having established a unit of standard; it was determined to try the effect of the extract on human diabetics. The extract was first tried on a fourteen year old boy, who was suffering with the severe type of the disease so common at his age. A blood sugar reduction of 25 per cent was obtained in his case, with marked clinical improvement. Intervals when no extract was given brought a return of the glycosuria, and an increase in the blood sugar percentage. These were again eliminated by again placing him on the extract.

The extract prepared by Banting and Best having a marked local irritant action, causing phlebitis often when given intravenously and abscess formation when given subcutaneously, it was decided that a less irritant extract must be prepared before further clinical use was attempted. Dr. J. B. Collip of the biochemical department was successful in producing such an extract by fractional pre-

cipitation with alcohol. This technique in all its essentials is the one now used in the attempted production on a large scale. At this time, the close of the fundamental step in the discovery, Sir A. E. Shafer suggested the name of "insulin" for the extract. This name was adopted, and as such it has since been known.

Others joined in the research and more complete clinical and laboratory records were made on each case. The respiratory quotient was found to be raised, the acetone bodies eliminated from the blood and urine, and fat metabolism was found to be aided—probably through the re-establishment of carbohydrate metabolism. In one instance it raised the glycogen in the liver from 1 to 12 per cent, and lowered the fat percentage in the same organ. It also lowered the glycogen in the heart muscle—which is quite high in the diabetic.

In the isolated rabbit heart, the muscle consumed 0.8 per cent per gram per hour of glucose present in the perfusion fluid. With the addition of insulin this consumption raised to 3 mg. phs. This would indicate the action of insulin in carbohydrate metabolism to occur in the muscles; but to date no acceleration of the disappearance of the glucose has been caused by the addition of insulin to the incubated muscle extract.

Clinical observation has been largely under the direction of Dr. Duncan Graham, Professor of Medicine in the University of Toronto, who has seen many cases in the Toronto General Hospital. Many cases in all stages have been observed in Dr. Banting's clinic at the Christie Street Hospital Branch of the Soldiers' Civil Re-establishment Bureau.

In these cases it has been proven that insulin in adequate dosage, administered subcutaneously, is capable in a remarkably short time of removing the cardinal symptoms of the disease for several hours. To suppress them permanently requires repeated injections, now usually given twice or three times daily, and before meals. The patient gains in weight, in physical and mental vigor, the dry skin returns to its normal appearance, and the hair becomes softer. Owing to the shortage of insulin, so far as has been possible to use it, only the severe cases, and preferably those that have been on a previously well regulated diet, have been chosen for treatment. Mild cases have not been treated.

A general plan of investigation has been instituted on all patients entering the hospitals for treatment. The history is carefully taken, and the physical examination is carefully conducted. If in a coma or pre-comatous state, insulin is at once given. The other cases are placed on a diet. This diet is

calculated on the basal caloric requirement as regards age, sex, weight; and with sufficient protein to maintain the nitrogen equilibrium. Fats and carbohydrates are given in such ratio as to prevent excessive formation of the acetone bodies. A few days starvation helps attain a constancy of sugar excretion more rapidly. Patients are kept in bed for a variable length of time, and later only light exercise is permitted. Blood and urine examinations are made for a week or more, and if at the end of this time the patient is sugar free, they are kept on the dietetic treatment—due to the shortage of insulin. Those who at this time show varying degrees of hyperglycemia, glycosuria, and acidosis, are given insulin. The amount of insulin required to make the patient sugar free, is first approximately calculated, and slightly less than this amount is given. Dosage is twice or three times daily, and preferably subcutaneously. Frequent blood sugar determinations and urinalyses are made to determine when the patient is sugar free and normal, and then just enough insulin is given to maintain this condition.

The food of these patients is well served, appetizing, and palatable; and careful caloric count is kept on both total and individual foodstuffs. Atwater's tables are used in the computation of calories.

To the present (Jan. 6, 1923) over fifty cases have been given insulin, and some have been under treatment continuously for several months. The most striking results are seen in the children and young adults, but all are markedly benefitted by the treatment. In the severe cases, if sufficient insulin is given, the urine is sugar free in from one to two days, and the ketones have disappeared in two or three days. At the end of the first week the patient feels a returning strength, becomes more cheerful and interested. The extreme hunger is replaced by a "good appetite," the excessive thirst disappears, polyuria is markedly reduced, irritability is lessened, and sleep is much improved. The expression improves, the skin is less harsh and dry, and the hair becomes softer. After a months treatment patients have been able to return to work. Weight frequently increases, and this is easily governed by the amount of food calories taken and insulin given. One patient aged sixteen, who had lost forty pounds in three years diabetes, gained thirty-five pounds in less than four months.

In cases of mild or severe infections the patients do much better than the untreated diabetics do.

In ten cases received in coma, six are living and four have died. Of the four who have died, one death was due directly to the

lack of insulin; one died from pneumonia after the coma had been relieved; one died of sloughing gangrene of the foot; and one of complete vaso-motor failure. The last three cases were relieved of their coma, and the last two were sugar free when they died. Their blood sugar was normal, blood ketones were absent, and glycogen was found in the liver and heart at post-mortem.

By fractional precipitation with alcohol, the preparation of insulin is practically protein free, and the toxic reactions have been no more than an urticaria of a varying degree. However if the blood sugar is reduced to the low point of 0.07 per cent the patient becomes aware of such symptoms as hunger, fatigue, anxiety, loss of emotional control, tremulousness, pallor, flushing, sense of heat and cold, and almost always a profuse sweat. When 0.05 per cent is reached acute distress is experienced and mental disturbances occur. At 0.03 per cent coma, hypotonia, and a loss of the deep reflexes resulted in one case. Further reductions in the blood sugar would undoubtedly result in death, as it has in animals. The patient, when once subjected to the symptoms of a hypoglycemia, is quite sensitive to any recurrence of the condition.

These hypoglycemic conditions are relieved by the administration of food, if mild. The mild cases react to orange juice, or to orange juice with the addition of five to twenty-five grams of glucose. If unconscious one c. c. of adrenalin is given subcutaneously, and followed by glucose by mouth as soon as consciousness returns. If consciousness does not return within a very few minutes after the administration of the adrenalin, glucose grain per kilogram body weight is given subcutaneously or intravenously. Up to the present the pharmacological assay of the extract has been unsatisfactory, and some of the reactions must be attributed to the administration of the new preparations of the extract, and their difference in potency. Especial precautions are taken to detect any early hypoglycemic reactions.

Insulin maintains the blood sugar at its normal level, and enables carbohydrates metabolism to proceed normally. Thus the patient has a greater resisting power, and hence the favorable influence in the infections. Under ether anesthesia the blood sugar reduction is of far less duration, but the danger of a post-operative coma is removed, post-operative acidosis is prevented, and surgery proceeds as with the normal individual, and the normal rapidity in wound healing. This item alone is of inestimable value to the surgeon.

Precautions to safeguard the production, standardization, and distribution of insulin have been taken. The chief originators of the

discovery offered to apply for a patent. This has resulted in much unjust criticism to them. Patents were applied for in the United States, Great Britain, Canada, and many foreign countries. These patents were turned over to the University of Toronto with this provision: That the University assume the function of licensing approved manufacturers to produce and sell a standard product of insulin. The originators are to receive nothing for their work. The University has appointed a committee composed partly of the investigators, and partly of the University Board of Governors, to assume these duties. They are now collaborating with a firm in the United States in the attempted production of insulin on a large scale. Previous attempts at large scale production have failed. When a preparation of standard potency has been obtained, the agreement with this firm will end, and any reputable firm may be licensed. The present firm, now furnishes according to agreement, a certain number of free samples to physicians in clinics where the treatment of diabetes may be properly carried out. Future licensure of all firms will require the frequent submission of samples of their product for examination to determine its potency and standardization. Patent royalties accruing will support this enterprise, thus guaranteeing a standard product on the market; and any excess royalties will be used in further research in diabetes.

Recently Krogh of Denmark has reached an agreement with the committee to advance the work in Denmark, paying especial attention to the extract of the fish pancreas. In a number of fish the islet tissue is separate from the acinous tissue. With the collaboration of Doctors Johanson and Hagedorn the work is now well under way in Denmark, both with the fish islet tissue and the adult ox-pancreas. Krogh, it will be remembered, received the Nobel prize in medicine in 1922 for his research on gaseous exchanges, capillary circulation, etc.

With the work now receiving the attention of the most brilliant minds in the profession it is earnestly to be hoped that the extract will soon be available to the entire medical world.

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THE JOURNAL

of The

Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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Public Opinion and Medical Progress.

Some valuable hints to the medical profession may be found in the following extract from the Review of the work of the Rockefeller Foundation written by its president, Geo. E. Vincent.

"In democratic countries like the United States, Great Britain, Canada, and Switzerland, the popular estimate of the social value of science, the general esteem in which scientific men are held, the willingness of legislative bodies and of private citizens to supply funds, and the readiness of leaders and people to accept and apply the results of scientific research are determining factors in the progress of knowledge. Unless the leaders of opinion and a substantial proportion of the adult population appreciate the aims and methods of science, understand something of the value of evidence, are familiar with reasoning processes, and are prepared to recognize the authority of disinterested experts, science cannot attain the place it deserves or render the service of which it is capable. Chemical, electrical, and mechanical engineers have won distinction and recognition because their work is tangible and convincing both to the trained leader and to the man in the street. The medical scientist, with vastly more complex problems to solve, must ask for the support of a much more intelligent, imaginative, and sympathetic form of public opinion. * * *

How shall a more intelligent and more sympathetic public opinion be created? How

shall the public be taught to recognize the authority of disinterested experts in medicine until they are taught to distinguish the disinterested experts from those who are neither disinterested nor expert? Will the popular estimate of the social value of the science of medicine be raised, or the general esteem in which scientific medical men are held be augmented by inviting the public to take part in our speculations and help us solve the scientific problems that confront us?

It would seem safer at least to try to convince the people of the value of vaccination in affording an immunity against smallpox, by actual statistics than by attempting to demonstrate to them our theories of immunity with diagrammatic illustrations such as decorate our text books on this subject. It would seem safer, at least, to tell the people of the physiologic effects of the thyroid secretion than to invite them to speculate with us upon the whole endocrine complex. It is unfortunate for the purpose of our educational propaganda that demonstrated facts in medicine are not as popular subjects for discussion with the people as the speculative theories that may or may not prove to be tenable. There is no censorship, however, that is competent to withhold misinformation, but it may be possible to counteract it when a source of authoritative information has been established. It is to be hoped that the popular health magazine recently launched by the American Medical Association will prove able to meet the requirement and gain popular recognition as such authority.

That something is being accomplished in the educational campaign now being promoted by various organizations is very evident—at least, it is apparent that people are more interested in diseases, their causes and their prevention.

Instructing the public along this line has become a popular pastime for those who have a facile pen, a little knowledge and a lot of imagination. The people read with avidity and accept with childish credulity the articles on medical subjects appearing in the popular magazines. With less knowledge, perhaps than the writers of some of these articles, it

is natural they should misinterpret some of the explanations and place more confidence than the facts justify in some of the theories advanced. Then these second or third hand students of medicine giving their own imaginative coloring to the few facts they have caught become themselves teachers of the public. This is well illustrated in the "Black Oxen" in which the authoress, Gertrude Atherton, describes the rejuvenation of sixty year old Mary Ogden by the simple process of stimulating her ovaries by means of frequent x-ray exposures.

Neither the medical nor the lay writers of popular medical articles are entirely responsible for the misinformation which the people are acquiring. The doctors themselves have succeeded in spreading a belief in the definiteness of a lot of indefinite relationships, and the constancy of a lot of inconstant occurrences.

In the Journal of the American Medical Association, May 26, Alvarez gives an analysis of the results of tonsillectomies in more than three hundred adults. Thirty-seven different conditions were stated for the relief of which tonsillectomy had been recommended. Among these are found insanity, epilepsy, constipation, asthma, cholecystitis, appendicitis, cough, dizziness, etc. In the tabulation of results one finds *good results* outnumbering *no results* only in those cases where tonsillectomy was done for tonsillitis and sore throats. The fact that people are willing to submit to a tonsillectomy for the most trivial causes and upon the slightest evidence of a possible relationship between the tonsils and a slight or serious malady demonstrates the influence of medical publicity campaigns rather than the confidence they have in the doctor's knowledge or opinion. Many of these people ask their doctor in a suggestive manner if their tonsils may not be the cause of trouble but when the operation fails to relieve the malady they are very definite in their condemnation of the doctor's judgment. There are few, in Kansas at least, whose reputation will withstand very many or very frequent failures in results. But the failure of a few men in a plan of treatment known to be approved by all tends to

discredit the profession as a whole. The very convincing (to medical men) demonstration of the etiologic relation of infected tonsils to rheumatism does not impress the public with such force as does the large per cent of *no results* in tonsillectomy for this condition.

On the strength of our limited knowledge of endocrinology, a great deal of experimental therapeutics is being carried on and a great deal of publicity given to plausible theories of specific actions that have not been proven. Without offering to criticise the medical profession for using every possible means for the relief of their patients—giving them even the remotest chance for relief when definite and certain remedies are unknown—it must be admitted that the extravagant claims that have been made on the strength of questionable clinical reports have been the incentive for such unjust criticism and such defamatory articles as those of Mr. De Kruif.

It would seem advisable at this time to restrict the medical educational propaganda somewhat and to try to teach the public those medical facts that have been demonstrated as such. There is a sufficiency of such facts to establish the scientific superiority of regular medicine and restore the confidence which so much indefinite information and speculative therapeutics seems to threaten.

—B—

**Proceedings of the Fifty-Seventh Annual
Meeting of the Kansas Medical Society
Held at Kansas City
May 2, 3 and 4, 1923.**

MEETINGS OF THE COUNCIL

The Council of the Kansas Medical Society met in the north auditorium, second floor, Chamber of Commerce, Wednesday, May 2, at 9 a. m.

Meeting called to order by the President, Dr. M. L. Perry. Those present were: Dr. L. W. Shannon, Dr. C. C. Goddard, Dr. P. S. Mitchell, Dr. G. A. Blasdel, Dr. E. G. Mason and Dr. J. F. Hassig, Secretary. After roll call, meeting adjourned until 5 p. m.

At 5 p. m. the Council met again. Those present, Dr. L. W. Shannon, Dr. P. S. Mitchell, Dr. O. P. Davis, Dr. G. A. Blasdel, Dr. E. G. Mason, Dr. H. N. Moses, Dr. C. S. Kenney, Dr. W. F. Fee, Dr. M. L. Perry, President and Dr. J. F. Hassig, Secretary.

This was a special meeting to consider the unethical conduct of a member, which was re-

ferred to us by the American Medical Association for definite action. After consideration, said member was reprimanded, his advertisement in the Journal discontinued, and his case is now under further investigation by the Council for final action at the mid-winter meeting. Dr. O. P. Davis was appointed a committee of one to draft a suitable letter and report at the next meeting.

The Council met Thursday, May 3d, at 5 p. m. Present: Dr. L. W. Shannon, Dr. C. C. Goddard, Dr. O. P. Davis, Dr. E. G. Mason, Dr. H. N. Moses, Dr. C. S. Kenney, Dr. W. F. Fee, Dr. J. R. Scott, Vice President and Dr. J. F. Hassig. The Secretary was instructed to write the letter which Dr. Davis had drafted on advice of the Council.

The Council met and organized May 4th, 9:30 a. m., Chamber of Commerce, with Dr. E. D. Ebright, the newly elected President in the Chair.

Dr. D. R. Stoner was re-elected as a member of the Defense Board and Dr. C. S. Kenney was elected to fill the vacancy caused by the expiration of Dr. J. A. Dillon's term as Councilor.

On invitation, from Dr. P. S. Mitchell, Iola was chosen as the place for the next annual meeting. Motion made and carried that there be no elaborate or expensive entertainment.

Committee of three was chosen to select places for annual meetings so that they would rotate among the various cities where meetings might be held. Committee: Dr. J. F. Hassig, Dr. W. E. McVey, and Dr. E. S. Edgerton.

Meetings of the House of Delegates.

House of Delegates to the Kansas Medical Society met in the north auditorium, second floor, Chamber of Commerce, May 2, 7:30 p. m. The President, Dr. M. L. Perry, called the meeting to order.

Mr. Edwin D. McKeever, attorney for the Defense Board, was present, and on invitation from the house, explained very clearly the condition of the Defense Fund and recommended that some plan be worked out whereby the Board could increase the dues sufficiently to take care of costs and judgments in malpractice suits and pay an attorney an adequate amount for his services.

On motion of the House, reading of minutes of last meeting was dispensed with.

SECRETARY'S REPORT

To the House of Delegates: I desire to submit the following report for the year ending May 1st, 1923:

Balance on hand May 1st, 1922:	
Medical Defense.....	\$1,241.41
General Fund.....	7,223.08
Total	\$11,464.49

Cash received from all sources for year ending May 1st, 1923:	
Dues from members.....	\$4,590.00
Editor	896.95

Total amount received.....\$5,486.95

Total	\$16,951.44
Amount expended for year ending May 1st, 1923:	
Medical Defense.....	\$1,310.96
General Fund.....	3,734.63

Total expenditures.....	\$5,045.59
Balance on hand May 1st, 1923.....	\$11,905.85
Statement of the standing of the two funds:	
Medical Defense.....	\$4,460.45
General Fund	7,445.40

Total

Total

In making this report I wish to call your attention to the fact that we have a rather complicated situation relating to our membership year, which dates from January 1st to December 31st of the fiscal year, while the financial year runs from May 1st to April 30th. Our membership for the year ending December 31st, 1922, was 1592, over a membership of 1504 for the previous year, 1921. At the present time we have a membership of 1448 as against 1432 at this time last year, which you see shows a gradual increase in the Society, which is gratifying when you consider that there is a gradual decline in the number of physicians in the state, owing to death and removal to other location, which is greater than the registration and licensing of new doctors in our state.

The success of the program is due to the able direction of the Council, the assistance of the various secretaries and the generous response of the members. We trust that you will derive much pleasure and benefit from this program.

The year just ended has been a very favorable one for the Kansas Medical Society not only from the standpoint of membership, but from a financial one as well. We feel that the credit should be given where it is due, and therefore we give full credit to the officers of the State Society for their assistance, and to the local secretaries for their hearty co-operation, for without their help we could not have attained this degree of success.

I wish to thank our President, Dr. Perry, for his loyal support and willingness at all times through the entire year, and to the honored guests who have so kindly responded to our requests for papers, we also give our heartfelt thanks.

Respectfully submitted,

J. F. HASSIG, Secretary.

Report accepted and placed on file.

TREASURER'S REPORT

To the House of Delegates: I desire to submit the following report for year ending May 1st, 1923:

Balance on hand May 1st, 1922.....	\$3,687.74
Third Liberty Loan Bonds.....	\$1,500.00
Second Liberty Loan Bonds.....	3,000.00
Certificate of Deposit Riverview State Bank, due August 15th.....	1,500.00
Certificate of Deposit, due June 21st.....	2,000.00
Cash received from Secretary:	
Jan. 6th.....	\$1,217.95
Feb. 21st.....	2,811.00
Apr. 30th.....	1,458.00
Interest on bonds and certificates of deposit.....	243.75
Interest on daily balance since Apr. 1st.....	5.20

Total cash.....\$9,423.64
Expended during May 1st, 1922, to May 1st, 1923.

GENERAL FUND

Vouch. No.	Payee	Amount
8	Dr. J. F. Hassig.....	\$ 763.17
9	National Hotel, Topeka.....	13.00
10	Miss Sidney Gardiner, Topeka.....	10.00
11	Dr. J. A. Dillon, Larned.....	4.25
12	Dr. W. E. McVey, Topeka.....	1,800.00
13	Dr. J. B. Crouch, Colo. Springs.....	52.90
14	Dr. E. E. Liggett, Oswego.....	6.21
15	Dr. S. J. Crumblin, Topeka.....	2.80
16	Dr. F. Tice, Chicago.....	50.00
17	American Medical Assn.....	11.00
18	Dr. M. L. Perry, Topeka.....	9.60
19	Dr. G. A. Blasdel, Hutchinson.....	29.00
20	Dr. C. C. Goddard, Leavenworth.....	25.38
21	Dr. W. F. Fee, Meade.....	47.00
22	Dr. D. R. Stoner, Ellis.....	43.82
23	Dr. H. N. Moses, Salina.....	26.60
24	Dr. L. W. Shannon, Hiawatha.....	17.11
25	Dr. P. S. Mitchell, Iola.....	13.38
26	Dr. J. A. Dillon, Larned.....	39.74
27	Dr. E. G. Mason, Cawker City.....	33.66
28	Dr. J. F. Hassig, Kansas City.....	536.53
29	Dr. O. P. Davis, Topeka.....	10.85
30	Mr. Geo. Thomas, K. C., Mo.....	35.00
31	Meseraull Printing Co., Topeka.....	16.00
32	Kansas Bankers Assn., Topeka.....	7.50
34	Meseraull Printing Co., K. C.....	106.75
		\$3,711.25
33	Whitehead and Hoag, Newark, N. J. outstanding, unpaid.....	23.38
		\$3,734.63

MEDICAL DEFENSE FUND

Vouch. No.	Payee	Amount
3	Edwin D. McKeever, Topeka.....	\$ 108.85
4	Edwin D. McKeever, Topeka.....	75.00
5	Edwin D. McKeever, Topeka.....	75.00
6	Edwin D. McKeever, Topeka.....	75.00
7	Edwin D. McKeever, Topeka.....	75.00
8	Edwin D. McKeever, Topeka.....	75.00
9	Edwin D. McKeever, Topeka.....	156.07
10	Edwin D. McKeever, Topeka.....	75.00
11	Edwin D. McKeever, Topeka.....	126.92
12	Edwin D. McKeever, Topeka.....	75.00
13	Edwin D. McKeever, Topeka.....	75.00
14	Edwin D. McKeever, Topeka.....	75.00
15	Bauer Printing Co., Topeka.....	7.50
16	Edwin D. McKeever.....	71.62
17	Edwin D. McKeever.....	75.00
		\$1,226.96
18	Kansas Medical Journal, Topeka, outstanding, unpaid.....	90.00
		\$1,310.96
General Fund.....		\$3,711.25
Medical Defense.....		1,220.96

Total expenditures.....\$4,932.21
Total cash received.....\$9,423.64
Total expenditures.....4,932.21
Balance in bank subject to check.....\$4,491.43

Report accepted and placed on file.

Treasurer was instructed to invest surplus money in safe securities for ensuing year.

COUNCILORS' REPORTS

On motion, reading of the Councilors' reports was dispensed with and the following reports were handed to the Secretary for publication in the Journal:

Dr. L. W. Shannon, Hiawatha, Councilor First District: I beg to submit the follow-

ing report of the First district to the Kansas Medical Society.

Atchison County—Number of members paid up and in good standing, 19; No. of eligibles not paid up, 5; No. not eligible, 4; No. of regular meetings held during year, 10. One special meeting on October 26th, 1922, when they entertained the Northeast Kansas Medical Society. Had nine out of town speakers address the Society.

Brown County—No. of members paid up and in good standing, 12; No. of eligibles that are not paid up, 8; No. not eligible, 0; No. of meetings held during the year, 2; with an attendance of eight and ten at each meeting.

Doniphan County—No. of members paid up and in good standing, 14; No. of eligibles that are not paid up, 0; No. not eligible, 1; No. of meetings held during year, 1.

Jackson County—No. of members paid up and in good standing, 9; No. of eligibles that are not paid up, 2.

Marshall County—No. of members paid up and in good standing, 12; No. of eligibles that are not paid up, 13; No. not eligible, 1; No. of meetings held during year, 0.

Nemaha County—No. of members paid up and in good standing, 8; No. of eligibles that are not paid up, 12; No. not eligible, 0; No. of meetings held during year, 4; attendance, 20.

Riley County—No. of members paid up and in good standing, 16; No. of eligibles that are not paid up, 3; No. not eligible, 1; No. of meetings—One meeting each month except July and August. Average attendance for the year, 10.

The counties of Jefferson and Pottawatomie have no local organizations, being adjacent to Leavenworth and Topeka. They maintain their membership in these Societies.

L. W. SHANNON, Councilor First Dist.

Dr. C. C. Goddard, Councilor Second District gave the following report: All counties in this District are going on harmoniously, with almost entire enrollment of resident regular physicians. We have had no complaint from any of the units of this District during the year.

Very respectfully yours,

C. C. GODDARD, Councilor.

Dr. P. S. Mitchell, Councilor Third District: I beg to report that nine of the ten counties in the Third Councilor District are thoroughly organized and in splendid working order. The tenth, Chautauqua county, has yet considered it unwise to organize on account of the small number of physicians.

Respectfully submitted,

P. S. MITCHELL, Councilor.

Dr. O. P. Davis, Councilor Fourth District:

The counties of this district are Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase. The component societies comprised in this district are the Lyon County Medical Society and the Shawnee County Medical Society.

The Lyon County Medical Society draws its membership not only from Lyon county with its 22 members, but also from the adjacent counties as follows: Chase county, 6 members; Woodson county, 4 members; Osage county, 1 member; Morris county, 11 members; making a total membership of 36. There are about 8 physicians in Lyon county eligible but not affiliated. The number eligible but unaffiliated in adjacent counties has not been ascertained.

The Lyon County Medical Society is very active and flourishing, strong in its solidarity and public spirit. The society held 11 meetings during the year, with an average attendance of 20. This Society showed marked co-operation in the matter of building the Lyon County Hospital. The first anniversary of the hospital was observed recently with a banquet and clinic, and although the councilor of the district was not fortunate enough to be there, he is informed that it was a very successful event, more than 100 physicians from the outside being invited. The society has a very capable and efficient secretary, Dr. M. T. Capps, to whom the Councilor is indebted, as well as to very many of the society's members, for courtesies extended.

The Shawnee County Medical Society derives its membership not only from Shawnee county, with its 108 members (out of 132 eligible) but from adjacent counties, as follows: Osage, 11 members, 23 eligible. Wabaunsee, 6 members, 14 eligible. Jefferson, 9 members, 18 eligible. Jackson, 2 members, number eligible not ascertained. Other members, out of the state, 4. Thus the total membership of this Society is 141, making it the largest county society in the state.

There have been 11 meetings during the year, with an average attendance of 42.1. To stimulate attendance and interest, the society has dinners preceding its meetings, holds hospital meetings, with clinics, and frequently secures out of town physicians of distinction as speakers.

The society owes much to its wide-awake and resourceful secretary, Dr. Earle G. Brown.

The two large societies above reported take care of the organization needs of the profession in all the counties of the district with the exception of Geary county. Geary is at the present time without any organization whatever, and has not had an active organi-

zation for some years past. There seems to be some insuperable impediment in the way of getting the profession together up there, and no encouragement is held out to any overtures made, looking toward the reorganization of the county. This is to be deplored, as Geary county contains, without question, a lot of good, eligible men, of high ability. Perhaps they may be inspired in the near future, to find some way of getting together.

Respectfully submitted,

O. P. DAVIS, Councilor.

Dr. G. A. Blasdel, Councilor Fifth District: In connection with my official duties as Councilor of the Fifth district, I beg to submit the following report:

Visited Harvey County Medical Society at Newton on December 4, 1922. Meeting was well attended. Dr. Bohan of Kansas City made a splendid talk. The membership of Harvey County is good.

Visited the Stafford County Medical Society at Stafford on November 8, 1922. I want to say a good word for the Stafford County Society. The members are loyal, the attendance is always good and they have a good program at every meeting.

The Marion County Society was visited December 6, 1922, at Hillsboro. This meeting was held in Salem Hospital, was well attended and a good program rendered. The membership of Marion county is nearly 100 per cent and good work is being done.

The McPherson County Society was next visited on December 11, 1922. Meeting was held in the new hospital. The meeting was well attended and much interest expressed. I want to say for the society that they are doing good work.

Next visit was January 30, 1923, the Rice County Society at Lyons, which was held in Hoffman Memorial Hospital. This meeting, while being an interesting one, was not so well attended as some other meetings of the Rice County Society which I have visited: their membership is well up and they are doing good work. Might add that the weather was bad that night which caused a poor attendance.

Am sorry that I did not get to visit the Pratt County Society. Had an appointment to go but was detained by a serious case of sickness, however, I was represented by Dr. Harry Blasdel. He reports a good meeting much interest expressed and good membership.

Kiowa county is unorganized but two physicians in Kiowa county are members of the state society.

Now for my own Reno county, I want to say everything good. We certainly have a

good county society. We are meeting this year only once a month, at which meetings we have dinner preceding our meeting. Our members are certainly interested, good in attendance and our membership is good.

In closing this report for this year I want to say for my district that I am proud of the work our members have done and the interest they have taken in our society, and wish that it may always continue as good as this year.

Respectfully submitted,

G. A. BLASDEL, Councilor.

Dr. E. S. Edgerton, Councilor Sixth District: Butler, Cowley, Harper, Kingman, Sedgwick and Sumner counties of this district are organized and have held regular meetings during the past year.

Butler county, the most recently organized society has had a regular attendance of two-thirds of the physicians of the county and includes in its membership several physicians from the neighboring counties. The organization of the society in Butler county has been a means of creating a much more friendly feeling among the physicians there than has ever existed before.

Sedgwick county, with a membership of 116, has had the best year of its history, both in the matter of attendance and in the character of the programs presented. The society meets twice a month at 6:30 in the evening. Dinner is served and the scientific program and business meeting follows. The dinner and meeting combined has proved to be a very attractive feature.

Cowley and Sumner counties, together with Kay county, Oklahoma, have formed the Tri-County Medical Society. This new organization meets about three times a year and at the time of this meeting the evening is given over to a meeting to which the public is invited. In addition to these union meetings, Cowley and Sumner counties both hold their regular meetings individually. Both of them are good live members of the State Society and are doing good work.

At this time plans are being matured for a Sixth District meeting to be held in Wichita, June 15th, 1923. Several speakers from outside the state have been arranged for and a good meeting is anticipated.

Respectfully submitted,

E. S. EDGERTON, Councilor.

Dr. E. G. Mason, Councilor Seventh District: The Seventh District is composed of Rooks, Osborne, Jewell, Mitchell, Republic, Cloud, Washington and Clay counties. Rooks is the extreme western county in our district and has only a few doctors and they never have organized a county medical society. The doctors in the south part of the county, at

Plainville, belong over in Ellis county and the doctors at Stockton hold their membership in Norton county. Osborne county is well organized, all the physicians in the county belong to the society. Jewell county is also well organized and has a full membership. There are only two doctors in Mitchell county who are not members of the county society. Republic county is well organized and all but one physician in the county are members of the county society. Cloud county is pretty well organized and a majority of the doctors belong to the county society. Washington county has 18 physicians in the county and only 10 belong to the county society, leaving 8 who should belong, so the county is fairly well organized. Clay county is well organized, all the physicians in the county except two belong to the county society. They hold monthly meetings and have lectures by an outside specialist. And taking it as a whole I think our district is in good working order and there is general feeling of good fellowship.

Respectfully submitted,

E. G. MASON, Councilor.

Dr. H. N. Moses, Councilor Eighth District: Interest in the county societies continues as in the preceding year. Saline county leads with the largest number of members and more frequent meetings. The varied programs add interest to the society and stimulate attendance. The custom of having a dinner each meeting night will be continued for the present year. Monthly meetings, with a vacation during the summer months, seem to give the best results.

Dickinson county is well organized, a few eligible physicians have not joined but a large majority are now members. Meetings are held each quarter in the several towns of the county. A dinner precedes the literary program which is participated in by the local members. Meetings are sometimes held in a local hospital of the town then entertaining, and material is used for clinical demonstration.

Lincoln county is not as active. There is some lack of interest, the members are farther apart, and meetings are not as well attended. The membership is up to the average of the other societies. Possibly the co-operation from surrounding societies will add much in bringing up the attendance.

Ottawa county is about to organize a society of their own. On two occasions arrangements were made for the initial meeting and official organization before the state meeting, but heavy rains and bad roads prevented physicians in neighboring towns from attending. An effort will be made to elicit the in-

terest of all the physicians, several of whom are still members of societies in adjacent counties, thus retaining membership in the state society. Ottawa county is the only county of the Eighth district which has secured an all time health officer.

Saline County Society made a strenuous effort towards organization of a public health department of the county, but it was unfortunately vetoed by the county commissioners.

Respectfully submitted,

H. N. MOSES, Councilor.

Dr. C. S. Kenney, Councilor Ninth District: I am pleased to herein hand you the annual report of the Ninth district, composed of the following counties: Smith, Phillips, Norton, Decatur, Rawlins, Cheyenne, Sheridan, and Thomas.

There are two good societies in this district, the Smith county, composed of thirteen members; and the Decatur-Norton, composed of thirty-five members. Both are quite active.

The number of eligible for membership in Smith county is 14, and they have a membership of 13, giving them a percentage of 92.86.

The Decatur-Norton Society is composed of the rest of the district and there are 62 eligible. Forty-six of these were members last year, approximately 74 per cent. Up to the present time there are 35 members for the year 1923, or about 65 per cent of those eligible.

Three meetings of the Decatur-Norton Society were held last year, with an average attendance of 15, 11 members and 4 visitors.

Respectfully submitted,

C. S. KENNEY, Councilor.

Dr. D. R. Stoner, Councilor Tenth District: I herewith submit my annual report of the Tenth Councilor District. This district includes the counties of Wallace, Logan, Gove, Trego, Sheridan, Graham, Ellis and Russell.

One district society, the Central Kansas Medical Society, is the only one maintained in this district, with regular quarterly meetings. The Central Kansas Society also includes one county—Ellsworth—which is in the Eighth District. Approximately 90 per cent of the eligible physicians in the district are on the membership roll.

Talent from out of the state and district are included in every regular meeting's program, which adds greatly to the interest and attendance. Plans are being made for a joint meeting for the coming year for the Eighth and Ninth districts.

Have visited seven of the eight counties the past year. The past year has shown the larg-

est regular attendance and interest in the history of the society. Regular quarterly meetings have been held at Hays, Russell, Wilson and Ellsworth.

Work and interest in the district society plan has been very satisfactory.

Respectfully submitted,

D. R. STONER, Councilor.

Dr. Wm. F. Fee, Councilor Twelfth District: As Councilor of the Twelfth District I wish to say that there has been very little doing in the past year. There have been some changes in the personnel of the profession, and some have moved away on account of the dry weather.

All of the societies are alive and functioning, although the number of members has not increased.

The territory lying between the Rock Island and the Santa Fe main line is not organized, although I have had promises from the men in that territory to get together. I have never been able to organize a society.

All of the Meade-Seward men who are eligible are in this society, and at the last meeting we invited the Seventh District Medical Association to meet with us. This they did, and we had a real meeting, good papers, and some very peppy discussions were entered into. In the evening, we had a real banquet, which brought cheer and good fellowship to all.

Last summer on my way to Colorado, I visited several of the men along the way as far as Johnson City in Stanton county, but I missed the doctor at that point, he being absent.

Will try and visit all of the societies this coming summer and maybe will be able to stimulate some growth in the society.

Respectfully submitted,

WM. F. FEE, Councilor.

Dr. O. P. Davis, Chairman of the Medical Defense Board, gave the following report, which includes the report of Mr. Edwin D. McKeever, attorney for the Board:

Report of Medical Defense Board for year 1922-23: Your Defense Board submits the following report of its expenditures during the past year. Also the report of its attorney, which is to be incorporated with this report:

May 9th	3	E. D. McK., sal., Apr. \$75, exp. Russel vs. Newman, \$33.85	\$ 108.85
June 12th	4	E. D. McK., salary, May....	75.00
June 15th	5	E. D. McK., salary, June....	75.00
Aug. 5th	6	E. D. McK., salary, July....	75.00
Sept. 15th	7	E. D. McK., salary, Aug....	75.00
Oct. 7th	8	E. D. McK., salary, Sept....	75.00
Nov. 4th	9	E. D. McK., salary, Oct. \$75, exp. & per diem Rainey vs. Nevitt, \$81.07	156.07
Dec. 9th	10	E. D. McK., salary, Nov....	75.00
Dec. 18th	11	E. D. McK., exp. & per diem Russell vs. Newman.....	126.92
1923			
Jan. 12th	12	E. D. McK., salary, Dec....	75.00

Feb. 6th	13	E. D. McK., salary, Jan....	75.00
March 12th	14	E. D. McK., salary, Feb....	75.00
March 12th	15	Bauer Ptg. Co., stationery.	7.50
Apr. 2nd	16	E. D. McK., exp. & per diem Hamblin vs. Bailey.....	71.62
Apr. 5th	17	E. D. McK., salary, March.	75.00
Apr. 18th	18	W. E. McVey, Editor Jour- nal, ½ page ad., 1 yr.....	90.00
			\$1,310.96

Report of Edwin D. McKeever, Attorney for Defense Board: In my last report, I reported the following cases pending:

Oaks vs. McDougall, Wyandotte county.

Russell vs. Newman & Young, Linn county.

Mast vs. Dillon, Pawnee county.

Rainey vs. Smith and Nevitt, Allen county.

The case of Foreman vs. Surber was reported as pending in the Supreme Court, since that time the new cases are as follows:

Montgomery vs. Williams, Shawnee county.

Herrick vs. Harrison, Shawnee county.

The cases reported pending a year ago have been handled as follows:

Oaks vs. McDougall, in Wyandotte county, nothing done. This case has been set a couple of times, but in my opinion the testimony taken by plaintiff at Rochester has proved very discouraging, and they appear to have lost interest in the case. However, it may be tried some time.

The case of Russell vs. Newman and Young was a case for \$25,000 against the doctors, who reside at Ft. Scott, for malpractice for leaving a sponge in the kidney cavity sixty-nine days. We had an exceedingly lively fight in this case, it lasted five days, last December. The jury returned a verdict against the doctors for \$1.00 and costs. I am advised that the jury stood 11 to 1 for the defendants from the beginning. They were out about two days and finally consented to a \$1.00 judgment to please a juror who apparently was a neighbor of the plaintiff, and to throw the costs upon the defendants. The defendants are well pleased with the results of this trial. This was the second trial of this case, the first resulting in a demurrer being sustained to the evidence, whereupon plaintiff dismissed it and started over again. Plaintiff and his attorney spent several hundred dollars on this case and a great deal of time, and for their time and trouble received 50 cents apiece. Mr. Rice, as I understand, offered them \$700 to settle this case before trial, but they refused. He did this without my consent, for the purpose as I understand, of cleaning up the Physician's Indemnity Company.

The case of Mast vs. Dillon, Pawnee county, died on the docket, and I understand the plaintiff dismissed it.

In the case of Rainey vs. Nevitt and Smith, Allen county, it will be remembered that this

was tried for the second time last September. In a former trial I demurred them out of court, they then appealed it to the Supreme Court and reversed me. After a long and vigorous trial in the last trial, the plaintiff secured a judgment of \$1.00 and costs. Like the Newman case, there was somebody on the jury who wanted to throw the costs on the defendant.

The case of Foreman vs. Surber, which I reported a year ago as pending in the Supreme Court, which I hoped to reverse was affirmed by the Supreme Court last month, leaving a judgment against Dr. Surber for \$3000.00. This is the first purely malpractice suit I lost in the ten years I have been attorney for the Defense Board, and I regret the result very much, as well as sympathize with Dr. Surber, who had no insurance. It will be recalled that this case was tried twice, the jury hanging the first time. The plaintiff was a tool dresser and he managed to get a number of his friends on the jury. He was able to display an ununited fracture of the upper arm with the arm dangling below.

Of the cases now pending, the case of Montgomery vs. Williams is an action for damages because Dr. Williams who is a throat specialist, as the plaintiff alleges, ran some sort of instrument down his throat and in drawing it out caused him great pain and permanent injury. The plaintiff has some sort of stricture of his oesophagus, and Dr. Williams found him in a bad condition so far as the stricture is concerned. Dr. Williams did not injure him and used the usual appliances in treating him. The case was set for trial recently, but the plaintiff seems to have lost his zeal and had the case continued. The plaintiff's wife came to me before the suit was filed and sought to employ me to bring the suit, which I declined as usual.

In case of Herrick vs. Harrison, Shawnee county, Dr. Harrison was sued for breaking off a point of needle in a woman's hand, in trying to remove some foreign substance in the junction of the thumb and first finger. This needle point later worked out and the plaintiff then discovered she was damaged and then sued the doctor. The case has never yet been set for trial, but it might be soon.

There have been several cases that have not yet been filed and I have been offered two or three, which apparently have never been started.

Yours very truly,

EDWIN D. McKEEVER.

Dr. Davis: It will be noted that of the cases pending from a year ago, one is still

pending, two have resulted in verdicts of one dollar for the plaintiffs, and one has resulted in a verdict of \$300.00 for the plaintiff, the latter affirmed by the Supreme Court. Thus three cases have been lost by us in the last year, which is quite a reversal of our previous long and proud record of unbroken winnings. We have long expected that we should some day lose a case or two, but we have given the winners a good run for their money. Two new cases have been brought during the year, both against Topeka members. A number of other cases have threatened, but have so far not matured into action.

The Board feels that the small number of new cases is not to be taken as a signal that we should go out of business, for our chief aspiration is to make malpractice suits unpopular and unprofitable, and to discourage the pirates from starting them. Nothing does this so effectively as for our organization to be in league against them, and prepared to fight to the last ditch.

We feel, though, that the functions of our Defense system should be broadened to take care of judgments also. As the matter now stands, our members who would provide against judgments must carry indemnity insurance in some outside corporation at a considerable expense. There is one company which industriously works our membership, takes their money, and, for the most part, lets our defense fund pay the costs of defense when their clients are sued. This company is not even grateful for our co-operation, but through its agents disparages everything that bears the mark of mutual defense. It seems to the Board that steps should be taken at once, looking to the establishment of a fund from which to pay possible judgments. An additional amount of five dollars, collected yearly from each member, would, in five or six years, accrue into a sum, the interest on which would meet all probable demands from adverse judgments. This fund could thereafter be replenished, if depleted by extraordinary circumstances, by an occasional assessment for the purposes. An editorial in the April number of our Journal, bearing on this question, is earnestly commended to the attention of every member.

We do not feel that this defense movement is meeting with the recognition by our members that it deserves. Of course, when a member is sued he becomes alive to its value, though even then there is often the most absurd ignorance on the part of the accused member as to where he is to apply for assistance desired, whether he will be charged anything or not, etc., etc. This, too, in spite of the fact that an advertisement containing

all essential instructions is carried year in and year out in our Journal, which he receives every month. Some even apply to Mr. McKeever direct, without any attention being paid to the Defense Board. And seldom indeed does any member express to this board or to any other Society functionary, his appreciation of the system when his case is won. But nevertheless, we are firm in the conviction that in the defense movement the Kansas Medical Society is possessed of its strongest and most valuable co-operative feature, and we advocate broadening and strengthening its efficiency in every possible way.

Respectfully submitted,

O. P. DAVIS,

Chairman Medical Defense Board.

Report was accepted and placed on file.

On motion, a Committee of three was appointed to investigate the proposed plan for the future of the Defense Fund, and report at the next meeting of the House of Delegates. Committee: Dr. P. S. Mitchell, Dr. W. E. McVey, Dr. W. F. Sawhill.

Dr. S. J. Crumbine, Chairman Committee on Public Health and Education read the following report:

To the President and the House of Delegates: Your Committee on Public Health Education and Instruction begs leave to make the following report:

The committee's activities have been confined almost entirely to promoting Cancer Control Week which occurred the week of November 11th.

Your Secretary and President co-operated with the committee in a splendid fashion to the end that interest might be aroused among the local county medical societies to undertake similar type of public education concerning cancer during this week. After your Secretary had written to all the local medical societies in the state, your committee sent a communication to each secretary of the county societies urging that the society hold some sort of public meeting during the week, or as soon thereafter as possible, to the end that the people might have reliable information concerning cancer, and be warned against the danger of irregular and fake cancer cures. The result of this effort was that 11 county societies held one or more public meetings, addressed by a member of the profession from outside the county.

In addition to the work done by the county medical societies, a number of local Boards of Health held public meetings and showed the moving picture cancer film "The Reward of Courage." The film was in continuous

use at various places throughout the state by local county societies, municipal boards of health, or a staff member of the State Board of Health for over three weeks.

Authoritative literature, published by the American Society for the Control of Cancer, or by the U. S. Public Health Service, was distributed, the total number of pieces distributed being about 45,000. In addition to this the Bulletin of the State Board of Health carried appropriate material in the November issue.

A number of county medical societies put on a very effective program, notably the Shawnee County Medical Society, where in addition to the public meetings the cancer film, "The Reward of Courage," was shown in the local moving picture theaters and four-minute addresses were made in a number of theaters and in most of the churches, literature being either distributed or a talk made from the pulpit. In addition to this a very appropriate and interesting display was exhibited in the show window of one of the large department stores of Topeka, which attracted the attention of thousands of people. I believe that work of this type is bound to result in much good, and if continued will appreciably affect the cancer death rate in Kansas.

Recommendations—The committee has worked entirely without any appropriation, the film, "The Reward of Courage," being purchased by the State Board of Health. It is recommended that the new committee to be appointed by the president, be furnished with such suitable means and measures as may be provided by the House of Delegates, in order that other phases of public instruction, particularly the type that relates itself to the work of the organized medical profession, shall be appropriately brought before the people of the state. Anyone familiar with the organized propaganda of the League of Medical Freedom and the Christian Scientists, which was very active during the session of our last legislature, must be impressed with the necessity of some type of immediate and effective education of the people, if the medical profession is to retain the standing that it has and its interests in the future be properly safe-guarded. The committee is aware that some warnings have been uttered from time to time at our annual meetings but the committee is of the belief that the time has come finally when earnest and aggressive work must be undertaken by properly authorized and responsible representatives of the State Medical Society, if the interests of the

profession and the welfare of the people are to be safeguarded.

Respectfully submitted,

S. J. CRUMBINE, Chairman.

Report accepted and placed on file.

Motion was made and carried that the Secretary be instructed to invest not to exceed \$300.00 in a moving picture which could be used in health work throughout the state.

Dr. McVey, Chairman of Committee on Medical History, read the following report:

Your Committee on History is able to make a report at this time that indicates some progress in the work it was appointed to do. During the time since the committee was appointed in 1918 data of considerable interest has accumulated. Some of this material has now been compiled and arranged so that we are able at this time to present to you for your inspection and consideration a loose leaf book in which will be found sketches of the lives of 13 of the 29 incorporators of the Society. Twelve of the 13 were physicians and four of them became presidents of the society. There are 38 sketches and 28 photos of past presidents. There are 6 photos of past presidents for whom we have no sketches. There are 16 sketches of past presidents of whom we have so far failed to secure photos. Some of these we have located and we will be able to have copies made when the society sees fit to appropriate sufficient funds for the purpose. We have had a few copies of this kind made and have arranged for three or four others to be made.

Of the 58 presidents there are still 14 for whom we have neither sketches nor photos. Some of these are still living and we hope to add these to our list in the near future.

The following past presidents, now deceased, are those about whom we wish information or the location of a source of information: C. A. Logan, '66, Leavenworth; John Parsens, '68, Mt. Pleasant; H. K. Kennedy, '73, Topeka; B. E. Fryer, '80, Leavenworth-Kansas City, Mo.; J. Bell, '88, Olathe; C. C. Green, '89, Winfield-Topeka; R. S. Black, '95, Ottawa; Chas. Gardner, '99, Emporia; J. W. Porter, 1900, Pittsburg.

We hope to be able to present to you at the next annual meeting a condensed history of the society from its organization in 1859 to the present meeting. This will include a synopsis of the transaction of each meeting and such items of interest as may have occurred during the program.

Most of the data required for this purpose has been collected, but considerable time will be consumed in selection and compilation.

We present herewith an itemized statement

of the necessary expenses incurred to date, amounting to \$22.22.

To book and paper for same-----\$ 6.22
To copies of photos----- 6.00
To help getting data from library_ 10.00

\$22.22

Respectfully submitted,

W. E. McVEY, Topeka,
W. S. LINDSAY, Topeka,
O. D. WALKER, Salina.

Report was accepted and placed on file, and motion made and carried that committee be retained, and authorized to spend necessary funds to carry on their work.

Dr. W. S. Lindsay, Chairman of Committee on Public Policy and Legislation made a verbal report, and Dr. Geo. M. Gray, Chairman of Committee on Hospital Survey also made a verbal report.

Dr. J. F. Hassig, Chairman of Committee on Scientific Work presented the program for this meeting as evidence of their work.

Dr. W. E. McVey, Editor of the Journal, gave the following report:

The receipts of the Journal from advertising show an increase of a little more than \$400.00 over last year. The cost of publication increased a little more than that, partly on account of a considerable increase in the amount of matter printed each month. The Editor takes this opportunity to request the secretaries of county societies to send in to the Journal such papers read at county society meetings as will be of interest to the profession generally.

At the last meeting of the House of Delegates, the editor was instructed to prepare and publish in the Journal a catalogue of the Stormont Medical Library. This is now almost complete. The type has been saved and if so desired reprints of this catalogue can be printed.

The Credit and Collection Bureau is conducted in connection with the Journal and lists of delinquents are being prepared and sent out to members in each county. This has been necessarily delayed on account of lack of facilities, but since the last meeting of the Council a multigraph has been installed and we will be able to supply these lists with more regularity.

The card index directory has been kept as nearly up to date as is possible. We still have the forms from which the last Directory was published and hope to be able to publish this in cheaper form and send copies to each member free of cost. This will depend, however, upon our ability to secure sufficient advertising matter to pay the cost.

Report of the finances of the Journal of the Kansas Medical Society including the Credit and Collection Bureau from May 1st, 1922, to May 1, 1923.

Cash Received	
Advertising	\$4,960.94
Sales and subscriptions.....	79.10
Credit and collection bureau.....	441.51
Kansas Medical Society.....	1,800.00
Miscellaneous	5.00
	<u>\$7,286.55</u>

Cash Paid Out	
Printing Journal.....	\$2,122.85
Stock and stationery.....	728.92
Salaries and wages.....	2,798.00
Postage	223.30
Credit and collection bureau.....	242.80
Miscellaneous	141.42
	<u>\$6,274.29</u>
	\$1,039.26

Cash on hand.....	\$ 768.41	
Office equipment.....	220.85	
Preparing catalogue.....	50.00	\$1,039.26

Report accepted and placed on file.

Dr. Elmer E. Liggett, Chairman of Committee on Necrology mailed their report to Dr. McVey, and is as follows:

Since the report at the Topeka meeting in 1922, information as to the deaths of 46 physicians in Kansas, has been received by the Committee on Necrology. This information was obtained from the obituary notices in the Kansas Journal, from the files of the Journal of the A. M. A., from correspondence with the secretaries of the local societies in the state, from obituary notices in the daily papers, and in some instances, from correspondence with personal friends.

Of the 61 local societies, 22 report no deaths, 18 report 34 deaths, 21 make no report. But from other sources it was learned that in 9 of these 21 not reporting there was a total of 12 deaths.

Following the rule of adding $2\frac{1}{2}$ per cent to the number of deaths reported, on account of delayed reports, and possible omissions, we may estimate the total number of deaths at 47.

According to the card index of the physicians of the state, kept by our Society, there are 2,295 physicians in Kansas. Thus these 47 deaths are equivalent to 20.48 per thousand. According to the Journal of the A. M. A. the annual death rate in the United States and Canada for 1922 was 17.73 per thousand. The same authority gives the average annual mortality rate for the period of 1902 to 1922 inclusive as 15.52 per thousand. Therefore it will be seen that our death rate this year has again been considerably higher than the average for the profession throughout the United States and Canada, and decidedly greater than the general mortality.

Of the 46 whose deaths were reported, 28 were members of the society, 8 were not given,

10 were non-members. Thirty-six were in active practice and 10 were retired.

Of the 46 decedents three were 35 years old, four were between 41 and 49, six were between 50 and 59, 14 were between 60 and 69, 15 were between 70 and 79 and 4 were over 80, being respectively, 84, 86, 88 and 90.

The cause of death in 9 instances was cardiac disease. Cerebral hemorrhage caused 6 deaths, pneumonia 4, nephritis and sepsis each 3, carcinoma, diabetes and suicide each 2. Senile dementia, septicemia, appendicitis, pernicious anemia, tuberculosis of the lungs, tuberculosis of the cerebral meninges and x-ray burns each caused one death. The cause of death was not given in 8 instances.

The length of time from graduation in two cases was less than 10 years, seven were graduated more than 10 and less than 20 years, 3 more than 20 and less than 30 years, 11 more than 30 and less than 40 years, 14 more than 40 and less than 50 years, three more than 50 and less than 60 years, and one was more than 60 years graduated. In five instances the time of graduation was not given.

The positions of trust and honor held were various. One was a minister, three were Civil War veterans, two were Confederate veterans, one was a Franco-Prussian war veteran, two were captains and one a major in the Medical Corps of the late war, one was a Major in the Officers Reserve Corps, one a member of the Local Examining Board. One was a Federal Examiner for the G. A. R., one had been Surgeon General of the G. A. R., one had been Pension Examiner, one had been Coroner, three had been Health Officers, one had been County Physician, two had been City Health Officers, one was Pres. of the Kansas Better Government League, one had been postmaster, two had been members of the State Legislature. One was Superintendent of the Bethany Hospital at Kansas City, Kansas; one had been Assistant Superintendent of the State Tuberculosis Hospital, one had been Superintendent of the Osawatimie State Hospital, one of the Larned State Hospital. One had been Professor of Electro-Therapeutics in the University Medical College, Kansas City, one was Professor of Psychiatry in the Kansas University Medical School.

Times of death by months: Three occurred during the last half of April, 1922, and the first half of April, 1923, 4 occurred in May, 6 in June, 6 in July, two in August, one in September, 2 in October, 4 in November, 2 in December, 4 in January, 6 in February and 5 in March. One was not given.

The mortality was greatest during February, June and July. March was next.

Cardio-vascular disease, including cerebral hemorrhage, caused 15 deaths, more than one-third of the total number.

ANDREW H. BARBER, Dorrance. Medico-Chirurgical College of Kansas City, Mo., 1903, died from carcinoma of the nose, Nov. 5th, 1922, aged 58. He was not a member of the society. Information: A. M. A., Dec. 16, 1922; Turgeon, Secretary Central Kansas.

JOHN SILAS BASS (Colored), Iola: Meharry Medical College, Nashville, Tenn., 1878. Died of pneumonia, March 4th, 1923, aged 74. He was a member of the county and state societies. He was a minister of the gospel, and with two other physicians who stuck to their posts, were the sole survivors of the great yellow fever epidemic in Nashville, at which place he was then in practice. Information: A. M. A., March 31st, 1923. Kans. Journal, April, 1923. Mitchell, Secretary Allen County.

ABNER H. BOYD, Winchester. Louisville Medical College, 1884; died from heart disease, June 23, 1922, aged 62. He was president of the Jefferson County Medical Society. Information: A. M. A., August 19, 1922. Kansas City Star.

ALONZO O. BLAIR, Pittsburg. St. Louis Medical College, 1877. Following a long illness died March 17, 1923, aged 69. He was a member of the county and state societies, and had practiced in Crawford county more than 40 years. Information: A. M. A., April 7, 1923. Kansas City Star.

MARK A. BRAWLEY, Frankfort. Cincinnati College of Medicine and Surgery, 1873. Died June 16, 1922, aged 72 years. He was a veteran of the Civil War, and had been City Health Officer. He was not a member of the society. Information: A. M. A., July 8, 1922. Kansas Directory.

DAVID F. BUTCHER, Severy. Cincinnati Medical College, 1875. Died of valvular heart disease July 28, 1922, aged 69. He had been retired about 5 years but was formerly a member of the county and state societies. Information: DePew, Secretary Elk County.

DONALD W. CAMPBELL, Atchison. University of Michigan Medical School, Ann Arbor, 1883. Died of angina pectoris January 20, 1923, aged 66. He was retired but had been county physician, surgeon for the C. B. & Q. R. R., and Pension Examiner. Information: A. M. A., February 17, 1923. Kansas Journal March, 1923. Horner, Secretary Atchison County.

AARON HENDRICK CONNETT, Great Bend. College of Physicians and Surgeons, Keokuk, Iowa, 1878. Died from cerebral hemorrhage July 17, 1922, aged 72. He was vice president

of the Barton County Society and had been County Coroner, Health Officer and Physician. He was one of the most prominent Masons in Kansas.

DORWIN A. COOKINGHAM, Topeka. Homeopathic College of Kansas City, 1899. Died April 14, 1923, aged 73. Information: Brown, Secretary Shawnee County.

THOMAS C. CRAIG, Easton. Medical College of Virginia, Richmond, 1867. Died June 29, 1922, aged 78. He was a Confederate Veteran. Information: A. M. A., July 22, 1922.

RAY G. DOANE, Lucas. Kansas Medical College, 1910. Died from diabetes November 22, 1922, aged 41. Information: A. M. A., December 23, 1922. Kansas Journal, December 22.

JAMES THOMAS FAULKNER, Lansing. Kansas City Medical College, 1903. Died from cerebral hemorrhage, May 1, 1922, aged 45. He was president of the Kansas Better Government League, a Major in the Officers' Reserve Corps. He was a captain in the Medical Corps during the late war. Had been state prison physician, a member of the County and State Societies. Information: A. M. A., June 10, 1922. Kansas City Star. Wife.

BYRON FERGUSON, Kanorado. Barnes Medical College, St. Louis, 1898. Died at St. Luke's Hospital Association, Denver Colo., May 22, 1922, from pneumonia, aged 55. He was not a member of the society. Information: A. M. A., June 17, 1922. Kansas Directory.

WINFIELD S. FERGUSON, Kansas City, Kansas, (licensed 1892), also a veterinarian; was found dead June 6, 1922, with a bullet wound in his head, presumably self-inflicted, aged 61. Information: A. M. A., June 24th, 1922.

JAMES ARTHUR GARDNER, Greensburg. Cleveland Medical College, 1876. Died of cerebral hemorrhage March 11th, 1923, aged 68. He was not a member of the society. Information: A. M. A., April 14, 1923. Martin, Secretary Pratt County Society. Miner, Greensburg.

WILLIAM ALBERT GARTNER, Troy, Ensworth Medical College, St. Joseph, Mo., 1914. Died at the Missonri Methodist Hospital Association, St. Joseph, June 30, 1922, from septicemia following an insect bite, aged 38. He was a Major in the Medical Corps, 89th Division and was wounded and gassed in the St. Mihiel-Argonne drive. He was a member of the County and State Societies and a Fellow A. M. A. Information: A. M. A., August 5th, 1922. Kansas Journal, September, 1922.

LEVI A. GOLDEN. Formerly of Kensington, died at Denver, Colorado, October 16th, 1922, of cerebral hemorrhage, aged 64. He was graduated from Rush Medical College, 1880.

Had been local surgeon for the R. I. B. R. and was a member of County, State and A. M. A. Information: Watts, Secretary Smith County. A. M. A. Directory.

ANDREW J. HALE, Leavenworth. (Licensed Iowa, 1886). Died at the Cushing Hospital Leavenworth, from senility, aged 88. He was a Civil War veteran. Information: A. M. A., January 20, 1923. Kansas Journal, February, 1923. Kansas Directory.

WILLARD A. HAYNES, Sabetha. N. Y. Medical College, 1881. Died December 29, 1922, aged 70. He was a member of the society. Information: A. M. A., January 20th, 1923. Kansas Journal, February, 1923. Kansas Directory.

JOSEPH C. HUGHES, Ottawa. Sterling Medical College, Columbus, Ohio, 1869. Died of cancer of the bowels, January 24, 1923, aged 79. He had been Federal Examiner for the G. A. R. He was not a member of the Society. Information: A. M. A., February 17, 1923. Kansas Journal, March, 1923. Hardy, Franklin County.

WILLIAM SEWARD HUNTER, Norton. Herring Medical College, Chicago, 1904. Served in army during World War. Aged 43. Was found dead in the Park Hotel, Arapahoe, Nebraska, October 30, 1922, from an overdose of morphine sulphate, presumably self administered. He was a member of the County and State Societies, and had been Assistant Superintendent at the State Sanatorium for Tuberculosis. Information: A. M. A., November 25, 1922. Kansas Journal, December, 1922. Kenney, Secretary Norton-Decatur Society.

JAMES W. JENNEY, Salina. Western Homeopathic College, Cleveland, 1868. Died from pneumonia, June 14, 1922, aged 75. Information: A. M. A., July 8, 1922. Kansas Journal, July, 1922. Kansas City Star.

JOHN CLAY KIRBY, Cedar Vale. State University College of Medicine, Iowa, 1892. Died suddenly of heart disease November 16, 1922, aged 58. He served in the Medical Reserve Corps and was a member of the County and State Societies. Information: A. M. A., December 16, 1922. Kansas Journal, January, 1923. McNaughton, Secretary Chautauqua County.

EMIL KUDER, Coffeyville. Army Medical School, Ludwigsburg, Germany (licensed Kansas, 1901). Died from uremia, January 2, 1923, aged 71. He was a veteran of the Franco-Prussian war. He was not a member of the society. Information: A. M. A., February 3, 1923. Kansas Journal, March 1923. Kansas Directory.

MILTON EMERSON LAKE, Erie. Medical College of Indiana, Indianapolis, 1885. Died

from acute dilatation of the heart and pneumonia, February 7, 1923, aged 65. He was a druggist, and a member of the State Society. Information: A. M. A., February 24, 1923. Kansas Journal, March, 1923. Kansas City Star.

WILLIAM H. LEMON, Lawrence. Died April 29, 1922, aged 90. He was a major in the 82nd Indiana Volunteers in the Civil War, and took part in Sherman's march to the sea. He served as Medical Director of Kansas for three terms and was Surgeon General of the G. A. R. for two years. Information: Kansas City Star.

WILLIAM STEPHEN McDONALD, Ft. Scott. Jefferson Medical College, Philadelphia, 1888. Died from angina pectoris, July 23, 1922, aged 69. He was on the staff of the Mercy Hospital and a member of the State Society. Information: A. M. A., September 2, 1922. M. F. Jarrett, personal friend. Wilkening, Secretary Bourbon County.

ROBERT NELSON McMILLEN, Kansas City, Kansas. Louisville Medical College, 1874. Died of apoplexy February 23, 1923, aged 73. He was a member of the County and State Societies. Information: Mitchell, Secretary Allen County Society.

R. W. MAINTZ, Linn. Missouri Medical College, St. Louis, 1899. Died from paralysis, April 2, 1923, aged 59. He had been a member of the state legislature and postmaster. He was a member of the County and State Societies. Information: A. M. A., April 21, 1923. Earnest, Secretary Washington County Society.

WILLIAM GILES MARTIN, Topeka. Rush Medical College, 1888. Died at Ottawa, May 1, 1922, from angina pectoris, aged 68. He had studied at Berlin, Vienna and London, but had retired and at the time of his death was not a member of the society. Information: A. M. A., August 19, 1922. Kansas Journal September, 1922. Kansas City Star.

JOHN WESLEY MINNER, Caney. (Licensed Kansas, 1904). Died of cerebral hemorrhage February 6, 1923, aged 64. Information: A. M. A., April 14, 1923. Pinkston, Secretary Montgomery County Society.

J. McLEAN MOULDER, Kansas City, Kansas. Medical College of Ohio, Cincinnati, 1875. Died March 4, 1923, aged 67. He was a member of the State Society and at the time of his death superintendent of the Bethany Methodist Hospital. Information: A. M. A., March 23, 1923. Kansas Journal, April, 1923.

WALTER A. S. MURPHY, Atchison. Chicago Eclectic College (licensed Kansas, 1901). Died from diabetes November 14, 1922, aged 72. He was not a member of the Society. Information: A. M. A., March 24, 1923. Kan-

sas Journal, April, 1923. Horner, Secretary Atchison County.

RODOLPH S. PLUMMER, Topeka. Louisville Medical College, 1883. Died of chronic interstitial nephritis, September 26, 1922, aged 73. He was a confederate veteran, had practiced in Topeka more than 30 years, and was a member of the County and State Societies. Information: A. M. A., October, 1922. Kansas Journal, October. Brown, Secretary Shawnee County.

SAMUEL MILTON PRATT, Topeka. Homeopathic Medical College of Missouri, St. Louis, 1861. Died from senility July 13, 1922, aged 86. He was retired, and not a member of the Society. Information: A. M. A., August 12, 1922. Kansas Journal, September, 1922. Brown, Secretary Shawnee County Kansas Directory.

ARTHUR B. REEVES, Oberlin. Ensworth Medical College, St. Joseph, Mo., 1910. Died from appendicitis, July 6, 1922, aged 38. He was a member of the County and State Societies. Information: A. M. A., July 29, 1922. Kenney, Decatur-Norton Secretary.

SAMUEL E. REYNOLDS, Clay Center. Medical College of Ohio, Cincinnati, 1873. Died of senile dementia, January 22, 1923, aged 77. He was a member of the County and State Societies and had been county health officer almost continuously since 1885. Information: A. M. A., February 17, 1923. Kansas Journal and Directory. Morton, Secretary Clay County Society.

LUCILLIUS R. SELLERS, Ft. Scott. Indiana Medical College, Indianapolis, 1877. Died of heart disease, May 6, 1922, aged 74. He had been on the staff of the Osawatimie State Hospital for 16 years, and was formerly superintendent of the Larned State Hospital. Information: A. M. A., June 3, 1922. Wilkening, Secretary Bourbon County Society.

JOHN NESBIT SCOTT, Peabody. University Medical College, Kansas City, Mo., 1897. Died July 24, 1922, aged 51, as a result of burns received in experiments with Roentgen rays. He never practiced in Kansas but established the first radiographic laboratory in Kansas City, Mo. He was Professor of Electrotherapeutics in the University Medical College and was on the staff of Bell and St. Joseph Hospitals. The amputation of his right hand in 1913 necessitated his retirement from active practice. He was a member of the Jackson County, Mo., State and A. M. A. Academy of Medicine, and the National Society of Roentgenologists. Information: A. M. A., August 12, 1922. Kansas City Star. B. T. Prather, personal friend.

JOHN T. STRICKLER, Norton. (Licensed Kansas, 1901). Died of senility February 22,

1923, aged 84. He was not a member of the Society. Information: Kenney, Secretary Decatur-Norton Society.

EDGAR CLARENCE TAYLOR, Pretty Prairie, University Medical College, Kansas City, Mo., 1909. Died from tuberculosis of the lungs, December 28, 1922, aged 46. He served as a captain in the U. S. Medical Corps during the World War, and was a member of the County and State Societies. Information: A. M. A., February 3, 1923. Kansas Journal, March, 1923. McKeown, Secretary Reno County Secretary.

LYMAN L. UHLS, Overland Park, Rush Medical College, Chicago, 1884. Died at Research Hospital, Kansas City, Mo., August 4, 1922, aged 65. He had been a member of the State Legislature. Was formerly superintendent of the Osawatomie State Hospital, head of the Uhls Sanatorium, and Professor of Psychiatry at the University Kansas Medical School. He was a member of the County and State Societies, and of the Medico-Psychological Association. Information: A. M. A., August 19, 1922. Kansas Journal, September, 1922. Kansas City Star.

CHARLES A. VAN VELZER, Ft. Scott, Hahne-mann Medical College and Hospital, Chicago, 1888. Died of chronic nephritis, March 17, 1923, aged 63. He had practiced in Ft. Scott over 30 years and was a member of the Society. Information: A. M. A., April 14, 1923. Kansas Directory. Wilkening, Secretary Bourbon County, M. F. Jarrett, personal friend.

ELNORA GILSON WHITMORE, Topeka. Woman's Medical School of Northwestern University, Chicago, 1894. Died of pernicious anemia, August 19, 1922, aged 56. She was a member of the County and State Societies. Information: A. M. A., September 9, 1922. Brown, Secretary Shawnee County Society.

JAMES CLAUDE WILHOIT, Manhattan. University of Louisville, 1907. Died of pneumonia at the Vineyard Park Hospital, Kansas City, Mo., February 17, 1923, aged 38. He had been president of the Riley County Society, and was on the local Examining Board during the war. He was a member of the Golden Belt Medical Society and of the County and State Societies. Information: A. M. A., Feb. 24, 1923. Kansas Journal, March, 1923. Wife.

S. K. WILLIAMS, Moran, College of Physicians and Surgeons, Kansas City, Mo., 1887. Died of heart disease, February, 1923, aged 73. He was a member of County and State Societies. Information: Mitchell, Secretary Allen County.

ary 1st to May 1st, including Secretary's salary, stenographer's salary, stamps, telegrams and telephone calls, amounting to \$736.69, was read and allowed.

The following resolution was unanimously adopted, and a copy mailed to Governor Davis:

..To the Honorable Governor of Kansas and to the Kansas State Board of Health: The Kansas Medical Society in annual session through its delegates assembled, does most earnestly endorse the Public Health Work of Dr. S. J. Crumbine, who is so widely known as one of the best health officers in the United States, and we would most seriously deplore the removal from office of so efficient an executive.

Meeting adjourned.

House of Delegates convened Friday, May 4th, 8:45 a. m. in Chamber of Commerce. Called to order by the President, Dr. M. L. Perry. After roll call, the following officers were elected for the ensuing term:

President, Dr. E. D. Ebright, Wichita.

Vice President, Dr. Alfred O'Donnell, Ellsworth.

Vice President, Dr. S. J. Crumbine, Topeka.

Vice President, Dr. Hugh Wilkinson, Kansas City.

Secretary, Dr. J. F. Hassig, Kansas City.

Treasurer, Dr. Geo. M. Gray, Kansas City.

Delegate to A. M. A., Dr. M. L. Perry, Topeka.

A motion was made and carried that \$125 be allowed this year to each delegate to the American Medical Association.

The following Councilors were elected for three years:

Dr. O. P. Davis, Topeka, Fourth District.

Dr. G. A. Blasdel, Hutchinson, Fifth District.

Dr. C. S. Kenney, Norton, Ninth District.

Dr. J. H. Tapscott, Rozel, Eleventh District.

Dr. W. F. Fee, Meade, Twelfth District, unexpired term, 2 years.

Standing of the Council is as follows:

Dist.	Councilor	Term Exp.
1st	Dr. L. W. Shannon, Hiawatha	1924
2nd	Dr. C. C. Goddard, Leavenworth	1924
3rd	Dr. P. S. Mitchell, Iola	1925
4th	Dr. O. P. Davis, Topeka	1926
5th	Dr. G. A. Blasdel, Hutchinson	1926
6th	Dr. E. S. Edgerton, Wichita	1925
7th	Dr. E. G. Mason, Cawker City	1924
8th	Dr. H. N. Moses, Salina	1924
9th	Dr. C. S. Kenney, Norton	1926
10th	Dr. D. R. Stoner, Ellis	1925
11th	Dr. J. H. Tapscott, Rozel	1926
12th	Dr. W. F. Fee, Meade	1925

Committee on Defense Fund made the fol-

Secretary's expense account, from Febru-

lowing report: Proposed amendment to Constitution—Resolved, that Section 1 of Article 13 be amended by striking out the figure three in fifth line of said section and inserting therefor the words "Ten Dollars." And that Section 2 of Article 13 be amended by striking out the word "One" in the first line of said section and inserting therefor the word "Six."

Report accepted and laid over for one year for final action, according to Article 16 of the Constitution.

MEETING OF THE COUNTY SECRETARIES

The Secretaries were guests of the Society at a noon day luncheon on May 2nd. The following Secretaries were present:

Name	Address	Society
Dr. C. S. Kenney, Norton	-----	Norton-Decatur
Dr. J. A. Milligan, Garnett	-----	Anderson
Dr. F. L. DePew, Howard	-----	Elk
Dr. P. S. Mitchell, Iola	-----	Allen
Dr. C. D. McKeown, Hutchinson	-----	Reno
Dr. T. E. Horner, Atchison	-----	Atchison
Dr. L. V. Turgeon, Wilson	-----	Central Kansas
Dr. W. F. Pine, Dodge City	-----	Ford
Dr. G. C. Mahaffy, Ottawa	-----	Franklin
Dr. C. E. Martin, Cullison	-----	Pratt
Dr. W. P. Irwin, Pleasanton	-----	Linn
Dr. W. E. Stone, Florence	-----	Marion
Dr. W. T. Wilkening, Ft. Scott	-----	Bourbon
Dr. M. L. Perry, President, Topeka	-----	Shawnee
Dr. J. F. Hassig, Sec., Kansas City	-----	Wyandotte

Everyone present made a short talk, giving a report of activities in his society, from which many good suggestions were gained, in the way of preparing attractive programs, keeping up the attendance and increasing membership.

The Secretary had charge of the meeting. Everybody was introduced, and good fellowship prevailed. This was the best meeting of its kind that has ever been held. The meeting was compelled to adjourn at 1:45 p. m. in order to attend the regular program.

REGULAR SESSION

Wednesday, May 2nd.

The regular session of the Kansas Medical Society convened at 9:30 a. m. to listen to an unusually good program which consisted of an address by the President and reading of scientific papers by members and guests. The program carried out was as follows:

Race Improvement, Dr. M. L. Perry, President, Topeka.

Ureteral Stricture, with Report of Cases, Dr. E. A. Pickens, Wichita.

Discussion opened by Dr. R. N. Gouldner, Wichita.

The Treatment of Mental Illness, Dr. Karl A. Menninger, Topeka.

Discussion opened by Dr. L. C. Bishop, Wichita.

End Results of Suprapubic Prostatectomy, Dr. V. C. Hunt, Rochester, Minn.

Discussion opened by Dr. Hugh Wilkinson, Kansas City.

Post-operative Pulmonary Embolism, Dr. Jno. L. Calene, Wellington.

Discussion opened by Dr. Geo. M. Gray, Kansas City.

High Blood Pressure in Pregnancy and some of the Etiological Factors, Dr. M. W. Hall, Wichita.

Discussion opened by Dr. E. A. Reeves, Kansas City.

Insulin Treatment of Diabetes, Dr. Ralph Major, Rosedale.

Discussion opened by Dr. C. F. Menninger, Topeka.

Puerperal Eclampsia, with Report of Cases, Dr. H. M. Glover, Newton.

Discussion opened by Dr. Jno. D. Clark, Wichita.

Unilateral Destruction of the Kidneys, Dr. A. D. Gray, Topeka.

Discussion opened by Dr. R. B. Stewart, Topeka.

Arterial Hypertension, Dr. L. S. Milne, Kansas City.

Discussion opened by Dr. Thor Yager, Wichita.

Our Changing Knowledge of Eczema, Dr. W. A. Pusey, Chicago.

Discussion opened by Dr. Richard L. Sutton, Kansas City.

The Anaemias, Dr. L. J. Lattimore, Topeka.

Discussion opened by Dr. R. C. Hayden, Rosedale.

Thursday, May 3rd.

Cleft Palate and Hare Lip, Dr. M. T. Sudler, Lawrence.

Discussion opened by Dr. E. G. Blair, Kansas City.

Experiences in One Hundred Consecutive Fractures, Dr. D. E. Broderick, Wichita.

Discussion opened by Dr. D. W. Basham, Wichita.

The Treatment of Acne, Dr. Homer G. Collins, Topeka.

Discussion opened by Dr. C. C. Dennie, Kansas City.

Recent Advances in the Treatment of Diabetes Mellitus, Dr. G. A. Chickering, Hutchinson.

Discussion opened by Dr. C. E. Coburn, Kansas City.

Ocular Manifestations of Syphilis, Dr. H. W. Woodruff, Joliet.

Discussion opened by Dr. James W. May, Kansas City.

Empyema, Dr. Chas. S. Campbell, Coffeyville.

Discussion opened by Dr. S. McKee, Leavenworth.

Basal Cell Carcinoma, Dr. Harry E. Blasdel, Hutchinson.

Discussion opened by Dr. M. Trueheart, Sterling.

Tumors of the Bladder, Dr. H. E. McCarthy, Kansas City.

Discussion opened by Dr. F. M. Denslow, Kansas City.

Practical Aspects of Endocrinology, Dr. P. M. Krall, Kansas City.

Discussion opened by Dr. C. A. McGuire, Topeka.

The Nasal Accessory Sinuses, Dr. Geo. J. Musgrave, Chicago.

Discussion opened by Dr. L. B. Spake, Kansas City.

Is the Death Rate in Appendicitis Increasing, and If So, Why? Dr. R. C. Dugan, Ottawa.

Discussion opened by Dr. J. W. Faust, Kansas City.

Friday, May 4th

A part of the morning was devoted to a nose and throat clinic conducted by Dr. Geo. J. Musgrave, Chicago.

Presentation of cases in Pediatrics—"Intestinal Infantilism, Enlarged Thymus, Muscular Dystrophy, Spasmus Nutans Mongolian Idiocy," Dr. H. L. Dwyer, Kansas City.

Toxic Goiter, Dr. C. C. Nesselrode, Kansas City.

Discussion opened by Dr. H. W. Horn, Wichita.

Intra-abdominal Examination by the Aid of the Peritoneoscope, Dr. W. E. Stone, Florence.

Discussion opened by Dr. John L. Evans, Wichita.

Handy Office Remedies—An Old Drug Dressed Up and a Common Remedy, Very Efficient, But Seldom Used, Dr. P. S. Mitchell, Iola.

Discussion opened by Dr. G. A. Blasdel, Hutchinson.

Electro-Coagulation, (Lantern Slides), Dr. T. Howard Plank, Chicago.

Ileus, Dr. H. L. Charles, Atchison.

Discussion opened by Dr. C. A. Lilly, Atchison.

The Treatment and Management of Tetanus, Dr. L. W. Shannon, Hiawatha.

Discussion opened by Dr. L. Reynolds, Horton.

The Woman-Child Problem from an Economic Standpoint, Dr. Frances A. Harper, Pittsburg.

Discussion opened by Dr. O. D. Walker, Salina.

J. F. Hassig, Secretary.

CHIPS

A policeman in Los Angeles found a dead horse on Figueroa street. In making out his report he could not spell the name of the street (Figueroa) but could spell Hope, so he hired a truck to haul the dead horse over to Hope street and spelled out his report.

The peewee holds the record in the bird kingdom (and animal) for the highest normal blood temperature—110-2°F.

An opinion repugnant to ours does not necessarily brand a man a barbarian or a savage but we often act as if it did—in medicine.

One thousandth part of antimony will convert the best copper into worthless. One thousandth part of bismuth in gold would render gold useless, from the point of view of coinage, because the metal would crumble under the pressure of the die.

Saturated steam above 720.6°C. is gas. Hence water occurs in four states: solid (ice), fluid, vapor and gas.

Everything strives toward symmetry in so far as the environment will allow excepting our idea of the devil.

Catalists are stranger than fiction. They are substances which by their presence, dictate what shall or shall not take place. They do not seem to be affected by what they do. They are conscienceless or immune to change. Satanic in their nature or makeup.

When it comes to economy in lighting the lightning bug has the patent and as yet it is in full force—the time appears to be unlimited.

What is the matter with Kansas? Dr. G. W. McCoy, director of the hygienic laboratory of the United State Public Health Service says: "Inoculations were made of smallpox in India and China, 300 B. C. Later when small pox reached Europe, inoculation went with it. Before the days of vaccination one-third of all persons had smallpox and one-tenth of all deaths were due to it. Today smallpox is rare. In our country well vaccinated communities show low disease rates. Maryland has one case (of smallpox) for each 10,000 population; New York, one for each 40,000; district of Columbia, one for each 7,000. In poorly vaccinated states the disease rate is much higher. Oregon has one case for each 700 persons; Washington one for 600; Kansas one for each 500. (The Pathfinder.)

We are sure this poor showing in preventive medicine is not the fault of regular medicine in Kansas. But if the progress in medi-

cine marks the advance of civilization and the smallpox standard was the measuring stick Kansas would be classed with the cave man when compared to New York in preventive medicine results in smallpox.

Dr. Homer M. Walker, formerly a member of the Kansas Medical Society and now located in Los Angeles, sends a cordial invitation to all Kansas physicians visiting Los Angeles to call on him at his office in the Merchant's National Bank building.

The Twelfth Annual Meeting of the American Drug Manufacturers' Association was held in New York City, April 16-19. Important matters relating to narcotic regulations, legislation, pharmaceutical progress, scientific research, medicinal chemicals and other subjects were discussed in the various sections.

A most successful meeting was closed with a banquet on April 19, at which the Hon. Royal S. Copeland, newly elected Senator from New York state, and the Hon. James A. Reed, Senator from Missouri, were guests of honor.

The officers elected for the ensuing year were: President A. S. Burdick, President of The Abbott Laboratories, Chicago; First Vice President, S. B. Penick, President of S. B. Penick & Co., New York; Second Vice President, Willard Ohliger, President of Frederick Stearns & Co., Detroit; Third Vice President, Ralph R. Patch, Vice President of E. L. Patch & Co., Boston; Secretary, A. Homer Smith, of Washington, D. C.; Treasurer, Franklin Black, Secretary of Charles Pfizer & Co., New York.

The Jackson County Medical Society, Kansas City, Mo., is arranging for a special Pullman to be attached to the Southern Medical Society's special train for the A. M. A. meeting in San Francisco. This train will leave Kansas City, Tuesday, June 19th, 5:45 p. m., via the Missouri Pacific, spending one day in Colorado and one day in Salt Lake City, arriving at San Francisco Sunday evening at 5:45 p. m. Medical men in the territory around Kansas City wishing reservations on this car should address the Secretary, Jackson County Medical Society, care of the General Hospital.

The following is given as a sample of the work accomplished under the supervision of Dr. Foucar, a New York physician of the American Relief Association, in Russia: Fifty-two thousand people bathed during the twenty-six working days of March in the fight against filth-borne diseases; five thousand adult heads clipped of verminous hair;

six thousand bundles of clothes sterilized in the same time; six thousand people treated at the bathing houses for some slight disease; nine hundred and seventy patients passed through an A. R. A. ambulatory."

The Department of Health of the State of New York announces very encouraging results in preventing deaths from measles by the use of a serum obtained from the blood of adults who have had the disease. Particularly good results were obtained in children's homes and institutions where the mortality is usually high.

The following is extracted from an article that appeared in the Bourbon News, Fort Scott.

"Most men and women are more or less worried about their health. *The whole physical and mental psychology is strained.* It has come to a point where an ordinary case of childbirth is a serious thing, usually requiring a hospital, trained nurse and concurrent expense. For the working classes of people this is painfully expensive, and the fear that goes with it is harmful in its restraining influence.

—R—

SOCIETIES

DICKENSON COUNTY MEDICAL SOCIETY

The Dickinson County Medical Society met in Hope, Kansas, April 19, 1923. It has been the custom of the society for the past year to meet the third Thursday of every third month. The meeting was held in Hotel Potter. After partaking of a fine dinner the meeting was called to order by the president, Dr. H. R. Turner. The regular business of the Society was transacted after which was presented a very interesting and instructive Symposium on Laboratory Methods by Dr. T. R. Conklin, Jr., and Dr. L. G. Heines of Abilene. The papers were discussed by most of the members present.

Dr. H. N. Moses, Councilor of our district was a very welcome guest. Society members present were Drs. Conklin, Atwood, Steel-emith and Heines, of Abilene, Kroesch and Carter of Enterprise, Klingberg of Elmo, Marshall, Peterson and Reichley of Herington, Ketcherside and Turner of Hope. The date of the meeting, April, 1923, reminded Dr. Ketcherside that he was graduated from college in April, 1873, completing 50 years in the practice of medicine.

The meeting adjourned to meet in Herington, July 19th.

E. J. REICHLEY, Secy.

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Post-Operative Pulmonary Embolism

JOHN L. CALINE, Wellington

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Surgeons everywhere, particularly in the larger clinics, are becoming more and more concerned over one dreaded, frequently fatal usually unpreventable complication—pulmonary embolism.

One needs but follow the autopsies and autopsy records in any large, or even some of the smaller, surgical clinics for a short time to be impressed with the fact that pulmonary embolism is much more common than he had previously believed to be the case. Hampton and Wharton, after studying all the pulmonary complications following gynecological operations at Johns Hopkins for a period of thirty years, decided its frequency as about one per cent. Later Wharton and Pierson state that half of the deaths following gynecological operations are due to this complication. Pepper and other men emphasize its frequency following pelvic and other lower abdominal operations. Pepper states that it can occur after any operation where there has been tissue trauma, infection, movability of a part and in tissues where there is free venous supply. It may occur after any operation, however. Thus, it is found after nose and throat operations, appendectomy, prostatectomy, cholecystectomy, gastroenterostomy, etc., and occasionally after such things as a venepuncture.

The etiology of the condition is still far from settled. Infection and trauma have been blamed more than anything else. However, cases occur where no evidence or infection in the operative field or anywhere else can be demonstrated. Even cultures of the embolus and the thrombus, the source of the embolus, are quite frequently negative. Cultures of heart's blood and splenic pulp are also too often negative. Similarly, where greatest care is taken in handling tissues and where little or no evidence of trauma is manifest, emboli occur. General anesthesia has been blamed for some of the cases but under local anesthetics it occurs just about as frequently. There can be little doubt that in some instances any one or all three conditions play a definite role but there is still some unexplained factor present.

Why abnormal coagulation of the blood

and thrombus formation in the femoral, saphenous, pelvic, or other vein should occur when operation has been a considerable distance from any of these vessels and therefore the chances of direct injury to them (a supposed necessary factor in thrombus formation) is slight, is also hard to understand. Toxins have been reputed but not demonstrated to produce the necessary injury.* Changes in the blood itself such as increased coagulation time have been held responsible but in most cases this is apparently normal. It is more comprehensible that a portion of this once formed thrombus should break off under movement of the part and lodge later in the pulmonary artery. Perhaps bacteriologists or those who are so eager to blame everything on to metabolic changes will be able in the future to explain the whole problem. At present we only know too well that the process does and often does occur.

Everyone is only too familiar with the case which seems to be coming along very well for one to two weeks following operation and just about the time the ill-fated patient is permitted to sit up or to move about he suddenly gasps for breath, becomes cyanotic and is dead almost before one can realize what is going on. Perhaps the patient has complained of a slight pain in the thorax. Perhaps he has had a slight attack of what was thought to be pleurisy, or bronchopneumonia. More frequently he has been thought to be "out of the woods." Autopsy reveals the expected things: A large embolism at or near the bifurcation of the pulmonary artery and its parent thrombus in the left femoral or saphenous or other vein.

We recently observed a case in a woman, fifty years old, with arteriosclerosis, cardiac enlargement, and evidence of cerebro-spinal lues. The technician had some difficulty in obtaining blood for a Wassermann and a small hematoma formed. The next day a hypodermic needle was inserted just above this site in preparation for intravenous medication. No blood was obtained and the needle was withdrawn though it was apparently in the vein. Just after it was inserted into another nearby vein the patient suddenly became dyspneic, and pale. The pulse rapid and feeble. Cyanosis developed and though artificial respiration and oxygen were used she was soon dead. The autopsy revealed a

large embolism in the right pulmonary artery just beyond the bifurcation. No evidence of thrombosis could be found in any of the veins available from within the thorax or abdomen. No endocarditis was found. We concluded that perhaps a thrombus had formed at the site of the original needle insertion, propagating upward. The subsequent attempt at injection perhaps dislodged a portion, or the whole thrombus, which lodged in the pulmonary artery. This, if the apparent source is correct, illustrates how small an injury is necessary to bring about the condition we are discussing.

A similar result occurred half an hour following manipulation of a fracture of the femur. Diagnosis of fat embolism (pulmonary) was made though autopsy was not done. While this type of embolism does occur occasionally in such cases one is often surprised at autopsy to find a thrombotic type, especially when some time has elapsed after the injury or manipulation of the fracture. Then too at times it is impossible to demonstrate any embolism at all.

Pepper states that the massive type forms less than one-half of all pulmonary embolisms. Wharton and Pierson found it to be still less common. The size of the obstructing clot and its subsequent location determine the result. If small, the number of clots lodging in the vessels of the lung is also important. It is these smaller types that mislead the internist called in by the surgeon. They are the types demanding correct diagnosis if the patient is to survive.

Mr. B, No. 3107, Hatcher Clinic, age 40, a farmer, was operated on for appendicitis. His preoperative physical examination was negative save for the rigidity in right lower quadrant. His past history revealed only that he had about one year previously spit up or coughed up a small amount of bright red blood. Before and since he had been in good health. He recovered nicely from the operation. The temperature was from 96-99 from the beginning. On the fourth day he was suddenly seized with a pain in the right lower chest anteriorly and almost immediately coughed up a small quantity of bright red blood. This pain, now dull and worse on inspiration, and the hemoptysis continued though both improved. A few fine dry rales were heard on the day following onset over the sixth interspace (right) but soon disappeared. The temperature never more than 101, soon became normal. Sputum examination was negative except for blood. On the tenth day the patient was given a back rest. Almost immediately he complained of severe sharp pain along the right lower costal margin and beneath the angle of the right

scapula. He became dyspneic, cyanotic and pulseless. He was immediately put in flat position and though he remained in a critical condition for hours, he gradually recovered. From then on he was kept absolutely quiet with the aid of opiates. Temperature for the next week ranged from 97 to 100. Hemoptysis and pain continued though both symptoms improved. The leucocyte count dropped from 20,000 to 12,000. There developed in three days over the sixth right interspace anteriorly an area about 6 cms. in diameter of suppressed breath sounds and finally flatness.

No rales were heard. The sputum, which was examined each day, showed gradually increasing numbers of polymorphs, some elastic fibers, and bacteria—pneumococci and streptococci. In two weeks it was practically normal. The area of flatness decreased too but was still present two weeks after onset. X-ray on the twenty-first postoperative day showed a shadow in the right chest continuous with the diaphragm and obliterating the costophrenic area and adjacent intercostal space. Two weeks later this area had become smaller and less dense. On the thirty-fifth day the patient was dismissed and was in good health when last heard from.

This case illustrates the type of smaller pulmonary embolisms which result in complete or incomplete infarction (hemorrhagic consolidation). If infection is present in the lung or is introduced with the embolus, or later, an abscess or gangrene results. Perhaps more frequently there is complete resolution and the lung shows no evidence of the process in the course of time. These, I am convinced, make up the bulk of pulmonary emboli. They usually occur in the second or third week post operative. Convalescence up to this time is usually uneventful or perhaps there is a slight afternoon temperature—which Wharton and Pierson think due to thrombophlebitis. Careful observation will reveal more or less marked swelling of one lower limb, but not always. Suddenly there is sudden sharp pleuritic pain along the right costal margin and below the angle of the right scapula. The temperature rises slightly. Hemoptysis occurs in the majority of cases. If a portable x-ray machine is available, x-ray picture will frequently show early clouding and later a fairly dense shadow in the costophrenic angle. If the patient is kept absolutely quiet he usually recovers. If he is allowed to move about in a few more days he has another attack more severe, and if he survives, still another which will prove fatal. The clinician, who thought he was dealing with first pleurisy, and later bronchopneumonia or lobar pneumonia, will be surprised

at autopsy to see the new and old infarcts and the final massive embolism.

The prognosis, therefore, depends on the diagnosis and resulting treatment. Mortality of the large type is from 90 to 100 per cent. The minor types if recognized (and sometimes they resolve if not recognized) have an estimated mortality of 15 per cent.

It is therefore highly important that everything possible be done to diagnose this condition. This can be done usually if it is remembered that the minor types do occur and if the classic fatal syndrome is not always expected. When pneumonia is suspected, minor embolism should be ruled out. Even when bronchopneumonia is most certainly present emboli must be borne in mind as a possible origin of the condition. Not a few lives may be saved by these precautions.

SUMMARY

1. Pulmonary embolism is a fairly common postoperative complication in all types, particularly pelvic operations.

2. The emboli are more frequently small than large and therefore do not always produce the classical clinical picture.

3. Minor emboli can be recognized clinically and proper treatment of them can prevent fatal results.

—R—

Ureteral Stricture

E. A. PICKENS, M.D., Wichita, Kansas

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Ureteral stricture appears to be a condition which is still relatively obscure, and frequently unrecognized, even by really competent surgeons and general practitioners. Again and again patients have been referred to us who have been repeatedly examined, and even undergone operative intervention, in whom the existence of ureteral stricture could be readily demonstrated by the employment of a proper technic. My experience has led me to believe that this condition is much more prevalent than is commonly supposed, and I am presenting this paper in the hope that it may arouse discussion and investigation, which will lead to more prompt recognition and earlier application of the appropriate remedial measures.

A very satisfactory classification of ureteral stricture has been arranged by D. N. Eisendrath* of Chicago, who considers that the most convenient division from an etiological standpoint is into *congenital* and *acquired*.

CONGENITAL

Valve formation.

Actual narrowing—more or less complete.

Spiral twists.

*Varieties of ureteral strictures. D. N. Eisendrath, Surg. Clinics, Chicago, 2:95, February, 1918.

ACQUIRED

Extrinsic causes: 1. Compression by neoplasms. 2. Accessory vessels to lower pole of kidney. 3. Trauma to periureteral tissues.

Intrinsic causes: 1. Inflammatory (pyogenic). 2. Secondary to tuberculosis of kidney or bladder. 3. Secondary to impacted calculus. 4. Primary carcinoma of ureter.

At the present time it is my intention to confine my remarks entirely to *intrinsic ureteral stricture*, leaving out of consideration obstruction—such as is caused by pelvic or abdominal tumors—or those cases where the stricture is due to nephroptosis which has produced a kink or angulation in the ureter, or again constriction of the ureter at the ureteropelvic junction produced by an encircling aberrant blood-vessel.

ETIOLOGY

It is the consensus of opinion that ureteral stricture is of hemolytic origin, coming from some distant focus of infection, as, for instance, the sinuses, tonsils, teeth, alimentary tract, broad ligament, cervix uteri, pelvis, or appendix. Our cases were studied bacteriologically as follows:

Two gave a pure culture of bacillus coli; one of staphylococcus; one a mixed infection of B. coli and staphylococcus; three of gonococcus; one case gave a sterile culture; another—following an operation for the removal of gall stone—was not studied microscopically. Two cases had no bacteriological examination. Details of some of these examinations are of interest:

Case 17 gave a sterile culture from both kidneys after thirty-six hours' incubation. Guinea-pig inoculation gave findings negative for tuberculosis.

Case 19 was not studied culturally, but microscopic examination demonstrated the presence of B. coli and staphylococci.

Case 24, which was not studied culturally, was unilateral, post-operative to cholecystotomy.

Case 41 was not studied culturally, but microscopically proved to be of gonococcal origin.

Case 45 gave a positive B. coli culture from the diseased ureter, but a sterile culture from the unaffected one.

Case 53, a bilateral case, gave a positive culture of B. coli from both kidneys. Guinea-pig inoculation of both kidney specimens was negative for tubercle bacilli.

Case 61 not studied bacteriologically.

Case 70, studied bacteriologically, proved to be seminal vesiculitis and prostatitis of gonococcal origin.

Case 80 was not studied bacteriologically.

Case 91 was (impermeable) stricture of meatus of ureter, due to gonococcus infection.

Case 99: Cultures from both ureters gave staphylococci.

SYMPTOMS

The most frequent symptoms enumerated by the patients who have come to me are: (1) frequency; (2) pain; (3) strangury and hematuria. Two patients complained of only blood in the urine, and massive hematuria was the only symptom in one case. All made mention of frequency and two of pain in the back in the region of the kidneys, the pain being usually referred to the region of the unaffected kidney. The most common site for pain, however, is at the point of stricture. In one case this was in the bladder region, in another in the region of the appendix. In this second case the pain was so pronounced that the attending physician and consultants suspected appendicitis and had it not been that the urinary examination revealed hyaline casts and red blood corpuscles would have performed an appendectomy. The pain is often reflected along the ureter to the kidney, but at times it may be due to over-distention of the renal pelvis. Again it may be referred to the sacro-iliac joint, to the hips, descending down the thighs, or to the internal orifice of the urethra itself. One very common symptom is discomfort in the bladder region. Most of my patients referred to this and to a frequent desire to void; again, the pain may first be felt in the kidney region and later, in the lower abdominal quadrant near the point of stricture. They all complained of a "nagging pain" or discomfort at the site of the ureteral inflammation. In the acute stricture one will have the pains common to acute hydronephrosis together with a large tender kidney and intermittent attacks of renal colic. Nearly all of my patients stated that this had occurred some time in their history. Cases 53 and 99 complained of malaise and a general mental depression amounting almost to melancholia. If located low the inflammatory infiltrated area may be palpated per vaginum or rectum and this area will be painful to the patient. Of my series of ureteral strictures, three were bilateral, and seven, unilateral, which is about the average, as statistics show that in thirty per cent of such cases both ureters are affected.

URINALYSIS

In some cases the urine was not abnormal though it very often shows the pathological variations common to this disease. Erythrocytes and leucocytes, various bacteria, and a few pus-cells are common findings and it may also show casts. When there is a urinary infection, fever and chills are common symptoms.

LOCATION

Of the unilateral cases, three strictures were of the meatus, all of them occurring in the left ureter; four were 5-6 cm. from the meatus, of which two were of the right and two of the left ureter. Bilateral cases, three of the strictures (two right and one left) were at the uretero-vesical junction; two at the uretero-iliac junction; and one (right) opposite the lateral process of the fourth lumbar vertebra, or at the junction of the uretero-ovarian artery.

INDIVIDUALLY

Case 17 was bilateral, the stricture on the left located (5-6 cm.) at the bifurcation of internal iliac vessels, while that on the right was located (12-14 cm.) opposite the lateral process of the fourth lumbar vertebra.

Case 19 was unilateral, located at the left meatus.

Case 24 was unilateral (left), situated 5-6 cm. from the meatus.

Case 41 was unilateral, located 5-6 cm. from the meatus.

Case 45 was on the right only and was found 8-10 cm. from the meatus.

Case 53 was bilateral, the left stricture being located 3 cm. and the right 5-6 cm. from the meatus.

Case 61 (unilateral), the stricture was at the left meatus which was found to be slightly cystic.

Case 70 was unilateral (right) located 5-6 cm. from the meatus.

Case 91 was at the left ureteral meatus.

Case 99 was unilateral (right), 5-6 cm. from meatus.

Case 80 was bilateral, both strictures seated 2-3 cm. from the meatus.

MORBID ANATOMY

The inflamed area may appear as a slightly annular band or thickening, or as a diffuse, indurated, cartilage-like formation, several centimeters in width. At times there may be multiple annular stricture formations, and occasionally there is a slight formation of calcareous deposits or of a small ureteral stone. An ulceration of the mucous surface may also be found in the strictured area.

EFFECTS ON UPPER URINARY TRACT

It is easy to imagine what happens when the normal flow of urine is obstructed in the ureter. First a stasis is produced then hydro-ureter and hydronephrosis, first dilating the pelvis of the kidney and lower calices as in Case 24. As this advances the hydrotic condition becomes more pronounced, and at this time the affected kidney easily becomes infected. The average capacity of the pelves of the kidneys in my unilateral cases was 18.33 c. c., and in the bilateral cases it was

for the right 57.75, left 38.75 c. c. In the unilateral cases, five strictures were on the left and two on the right, the left kidney pelvis averaging a capacity of 14 c. c., and the right, 27.50 c. c. Of the bilateral cases, the right had a greater dilatation than the left in each case. Five of my unilateral cases were in females and two in males, and of the bilateral cases two patients were females and one a male.

TESTS OF KIDNEY FUNCTION

A fifteen-minute specimen following the intravenous administration of phenosulphonephthalein in the unilateral cases gave the following findings: Three showed no diminution of phenosulphonephthalein output; two showed a secretion equalling 25 per cent for both kidneys—or 12.50 per cent for each kidney—the bladder specimen in each case being negative; in one case there was a 5 per cent secretion from the affected kidney, while the unaffected kidney was normal, and the bladder specimen negative. In a single case there was no secretion from the diseased kidney, while the unaffected one showed a five per cent secretion in thirty minutes, with negative bladder specimen.

In the bilateral cases there was evidence of more serious disturbance. In one bilateral case there was an excretion of only 2.50 per cent of phenosulphonephthalein, in another 7 per cent and in a third 22.50 per cent, the bladder specimen being negative in each case. In two of the bilateral cases, one kidney was totally inactive, in one case the right, and in the other the left.

In detail, the results of the tests were as follows:

UNILATERAL CASES

Phenolsulphonephthalein appeared in bladder specimen negative.

- Case 19.—Right 4 min., 12.50, well kidney.
Left 3 min., 12.50, strictured side.
Total secretion 25 per cent.
- Case 24.—Right 4 min., 15%, well kidney.
Left 4 min., 15%, strictured side.
Total Secretion, 30%.
- Case 45.—Right 4 min., 5%, strictured side.
Left 3 min., 15%, well kidney.
Total secretion, 20%.
- Case 61.—Right 26 min., 5% in 30 min., well kidney.
Left never appeared, strictured side.
Total secretion 5% in 30 min.
- Case 70.—Right 5 min., 12.50%, strictured side.
Left 5 min., 12.50%, well kidney.
Total secretion, 25%.
- Case 91.—Right 4 min., 15%, well side.
Left 4 min., 15%, strictured side.
Total secretion, 30%.

- Case 99.—Right 4 min., 15%, strictured side.
Left 5 min., 15%, well side.
Total secretion, 30%.

BILATERAL CASES

- Case 17.—Right 3 min., 12.50%.
Left 3 min., 10%.
Total secretion, 22.50%.
- Case 53.—Right 6 min., 7%.
Left none, impermeable.
Total secretion, 7%.
- Case 80.—Right, never appeared.
Left 12 min., 2.50%.
Total secretion, 2.50%.

CALCULUS FORMATION

One of the most interesting features of any ureteral disease is its relation to the formation of calculi. In times past all calculi were supposed to form in the kidney; from there they progressed to the ureter and became lodged in the stricture. This no doubt does happen, but it is now undisputed that some stones originate in the strictured area as urinary salts are frequently found deposited there in sufficient quantity to adhere to the wax bulb of the catheter and to cast a shadow on the x-ray film. Many surgeons, operating on these cases, have found these deposits, and also small stones, which have never produced any symptoms.

DIAGNOSIS

In establishing a diagnosis of ureteral stricture most or all of the following procedures should be employed in each case: (1) the history; (2) physical examination, including palpation of the abdomen for tender nodular areas which are located in the kidney and ureteral regions; (3) vaginal and rectal examination for tender enlargements; (4) urinalysis; (5) cystoscopy and catheterization of both ureters with opaque catheters having wax bulb and wax rings at intervals, and with the ureteral bongie; and (6) x-ray examination.

In the history stress will be laid on tenesmus and frequency, with, possibly, colic attacks; there may have been the chills and fever also. A detailed history may reveal evidence sufficient to warrant a thorough urological examination.

Palpation of the abdomen for tender kidney frequently reveals tenderness over the strictured area best elicited in the vagina or rectum, where one can feel the indurated area and outline the tender inflamed part.

In the urinary examination—unless the case is infected—there is usually little of special importance to be observed. Red blood corpuscles in a centrifuged specimen was a common finding in my cases, and one showed hyaline casts.

If the stricture is at the meatus, it can be

seen with the cystoscope and there will generally be cystic formation of the vesical portion of the ureter. Cases 19, 61 and 91 were of this type. Catheterization usually yields the first evidence of the presence of the stricture when the catheter will meet resistance or be unable to pass at all. This, however, I do not consider as positively diagnostic, yet it is suggestive, if the catheter is repeatedly stopped in the same location. If an olive—or acorn—tipped ureteral bougie is passed, on being withdrawn it will give the characteristic “hang” at the site of the stricture. Case 53 was mechanically impermeable, the first and second times catheterization was attempted, though when the No. 3 filiform was introduced, crowded and then withdrawn, it would “bring down” the ureter as though something were about to be delivered from it. Case 19 was a stricture of the meatus, the vesical portion of the ureter being of cystic formation. In this case there would be a swirl of urine from the meatus following the peristaltic wave of the ureter, and it was only at this time that catheterization could be done.

X-RAY

Roentgenology enables us to demonstrate the effect of ureteral stricture in the upper urinary tract, or reveals the cases of hydronephrosis and hydroureter, in this way confirming the other findings. It is best to use an x-ray catheter and to take both plain and opaque films; *never* on one side only but *always on both sides*, for in this way alone can one make any valuable deductions as to the real condition of either kidney or ureter. In this way also one avoids the possibility of being misled into examining the well side as it is not at all uncommon for all symptoms to be referred to that side.

TREATMENT

The treatment of ureteral stricture depends in large measure upon the co-operation of the urologist's colleagues, for permanent and complete relief of the patient depends upon the finding and eradication of the original focus of infection. Until the offending sinus, tonsil, tooth or tube is discovered and rendered innocuous by treatment or removal, symptoms will persist, and continual distressing recurrence will take place.

The ideal local treatment is by the vesical approach. In all my cases I have used the ordinary operating cystoscope, and in most of them the Garceau catheter, No. 11-F, for greatest dilatation. I commence with the smaller flexible instrument using the larger sizes as the results obtained necessitate. I give one dilatation weekly, always followed by lavage. I prefer argyrol, 20 per cent, although I occasionally use silver nitrate, one

per cent. In Case 19 where the stricture was of the meatus, I used the No. 6-F catheter with wax bulb. In Case 53 I was compelled to try three consecutive times before I could pass even a No. 3 filiform. Generally, if much trauma is produced a ten day to two weeks' interval should be allowed so that all edema may subside and absorption of the infiltration take place before another attempt is made. Should a catheter with stylet in place be employed, considerable caution is necessary for if the stylet be advanced beyond the tip of the catheter one may perforate the ureteral wall, and it is also very easy to push the stylet through the side of the catheter if it is not advanced to the end. I have had the catheter-stylet become so tightly engaged in the stricture that I was unable to withdraw it until the stylet was first removed. I have never used the Kelly speculum with which others have had such favorable results. My unilateral cases received a total of thirty-three dilatations, or an average of a little more than four dilatations for each case for a period of five weeks. My bilateral cases totaled twenty-one dilatations, or an average of seven dilatations per case, during a period of eight weeks.

The greatest number of dilatations in any one case was nine, and the least was two. In all cases—except Case 80 in which the patient died one month after receiving the fourth dilatation—this sufficed to relieve all symptoms and restore the functioning capacity where it had been deficient.

CONCLUSIONS

1. Ureteral stricture is a definite clinical entity and should be given more careful consideration.
2. The ureter is too often overlooked as the source of trouble.
3. The chief symptoms are frequency, pain and strangury; the mistake most frequently made is to neglect a thorough examination of the patient and depend too much on urinary sedatives or antiseptics, and surgical procedures.
4. Ureteral strictures can be effectively treated by the vesical approach and all doubtful abdominal or pelvic cases should have a thorough urological examination before any attempt at operation or prolonged treatment.
5. Yearly or semi-yearly dilatations, carried on over a period of three or four years, are necessary. An average of five dilatations sufficed in my cases.

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Legislative Lobbying

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Just at this time I did not care to make an attempt to write on any subject medically, as I did not feel capable of offering you anything new or profitable on any professional subject. However, for many years I have been an interested onlooker and student of the deliberations of both our national and state legislative bodies and in many instances have been privileged to witness the deliberations and final conclusions of our own Kansas legislature. During each session of our National Congress I have followed with intense interest the discussions and final outcome of the more important legislation, and have noted that the outside influences have played a most important part in the final disposal of all important measures. It was President Wilson who, upon his arrival at Washington as our president, was so shocked by the size and power of the "silent government" represented by the lobbyists that he made a national issue of the lobby at once. Some of the evils of secret lobbying by special interests were at that time either eliminated or alleviated as a result of this issue, but the lobby still remains as powerful as before. This "silent government" is better organized, more intelligent, and more powerful in many instances than is the legislative body itself.

The word lobby means "any persons, not members of a legislative body, who strive to influence the proceedings by personal agency."

In the last National Congress there were one hundred and forty-five special representatives of special interests, with headquarters in Washington, making it their business to try to influence legislation and government activity favorably to the interests they represented. Most of these lobbyists are paid higher salaries than any of the senators or representatives, and most of them know more about the technique of legislation than many of the congressmen.

A certain odium has always been attached to the word lobby, and on this account a great many individuals and organizations, who enter into this line of work, oftentimes resent this appellation being applied to their activities. Lobbying, however, has been recognized as legal and legitimate. The secrecy and power of the process has been very conducive to many irregularities and harmful conclusions, and on this account most of the legislative bodies require lobbyists to register and make themselves publicly known. Granting that lobbying is entirely legal, it is most certainly contrary to the principles of our common

laws. Men, business and organizations naturally have a right to be heard when legislation affecting them is up for consideration, provided always, that such activities are not opposed to the general public good and interest. By requiring registration, legislative bodies have been able in a measure to control these activities and at the proper time bar the interested lobbyists from the legislative floors during the final consideration and adoption of measures about to be enacted into a law.

To the Christian science lobby of the last Kansas legislature I desire to direct some pertinent remarks and call to the attention of the medical profession the powerful influence they were able to exert during this session. It was publicly charged through the press that never before in the history of Kansas had the lobbyists been as active and successful as they were at this last session. At this session there were recognized many well organized, powerful and efficient lobbies, but none that could in any manner compare to the well oiled lobby of this cult. It was the most active, largest in numbers and credited as being the most impressive in years. The old Santa Fe lobby of former years and the present powerful Bell Telephone lobby have been credited as cunning and successful, but the Christian science lobby at this last session of the Kansas legislature was recognized and admitted to be the best organized and most effective lobby ever known in our state or legislative history. Through the legislative members belonging to their cult, whom they at all times quietly and with organized cunning endeavor to elect to these legislative positions, and who by the way, represent us as some of our most intelligent and successful citizens, they are able to secure important committee appointments. Then they craftily follow this up by an organization of the wives of these members, who have passes in both houses at any and all times, while all other lobbyists are from time to time denied this privilege—then following up these advantages with a brilliant and smooth working organization, picked from the brightest of their cult, they constructed what was acknowledged to be the most powerful, best organized and effective lobby ever known in the Sunflower state. Had their activities been directed along the lines of sane and constructive legislation they were in a position to have done our commonwealth a great deal of good, but rather were their efforts of an insane and destructive character, accomplishing instead a lot of harm for our state. Credit is accorded them of having either defeated or curtailed every health measure brought before the last legislature; and

in being able to accomplish such a purpose placed our good state in a most deplorable and dangerous situation. Proper health programs and laws and necessary appropriations were defeated by them—such as the child's code commission, the "Shepherd-Towner" bill and others of equal importance, and they did not fail to take a stab at our fine and splendidly organized state board of health.

Under cover of that famous slogan of the last campaign of "Tax Reduction" these Christian scientists carried out their operations and were enabled to defeat many important and vital appropriations directed toward a good health program and to the protection of mothers and babies of our good state. In my estimation, and I do not believe in mining my words, any organization of this kind or character, that would strike in the dark as this bunch have been given credit for having done, should be Ku Kluxed out of existence. It is said that the Ku Klux were reorganized to correct the shortcomings of the Catholics and Jews, and were I a member in good standing of this organization and could exert any influence I should most certainly endeavor to direct their attention to this cult for very definite action. The membership of this church of unintelligible drivel are not satisfied to accept their silly and unscientific belief, but are now endeavoring to force their creed on the rest of us and to defeat through their lobby our health programs, that have taken a great many years to establish and which mean so much to the health and welfare of our country. They are credited with the defeat of the Shepherd-Towner act, which was to provide for a national subsidy to promote the welfare and hygiene of maternity and infancy. Twenty-six other states adopted this measure and Kansas was the first to reject it and in doing so the State Board of Health of Kansas loses its federal aid and its opportunity of service to the motherhood and infancy of Kansas. Since this national program was instituted there has been a great reduction of mortality among the babies of our nation, especially those under one year of age. The loss of this federal aid will materially cripple and defeat this great work in Kansas.

This is but one of the many instances of the work accomplished by this cult, who are given credit for having either defeated or curtailed practically every measure presented in favor of our health programs, by their expert and efficient lobbying. Courage and non-partisanship are the two most essential elements with which to combat and crush successfully this cult of delusionists. They are growing rapidly and many of our good

people who do not join them take a conciliatory attitude toward them and will say in a simpering way that there must be some truth in it. I contend that there is no truth in it whatsoever and as some writer has aptly said, "their very name degrades the holy name of science." It is not going to be an easy task and it will take the undivided efforts and attention of the medical fraternity, together with their friends, to successfully combat their vicious propaganda.

The dangers of disease transmission, those lurking in harmful foods and unsanitary surroundings, hazards of poisoning and of infection of various kinds, hereditary taints, degenerative and venereal diseases, the bacteria innumerable and functional disorders, together with many others of menace to the health and welfare of our country, are problems to be squarely faced in no uncertain way, but which this cult ridicule as non-existent, publicly and boastfully claiming that matter is non-existent, that disease is only an error of mind, that germs are a fiction and that the very worst diseases can be cured by prayer. Our efforts along good health lines and preventive medicine have made little enough progress, without our sitting idly by and allowing those who are ignorant or misinformed to destroy the advancement we have made along scientific lines.

Prevention and specific treatment of tuberculosis, cancer, diphtheria, typhoid fever, small pox, yellow fever, malaria, etc., are only a very few instances of the advance that our profession has made. Some of these diseases have been practically stamped out of existence, and still our science friends brazenly contend that there are not and never were any such diseases, deny the very existence of drugs and matter and claim that bacteria and germs are fiction. The most concrete example perhaps of our advancement along these health lines is the history of the hook worm, malaria and yellow fever of the south, where our people have become healthy, prosperous and happy, and where but a few short years ago these same people were continuously chilling, sallow, anemic and miserable. Now, is our profession going to continue their petty bickerings and jealousies in their own ranks and allow to go unchallenged the charges of this cult, who contend that health is not a purchasable commodity? Rather than a continuation of this partisanship, it behooves us to more systematically and thoroughly organize our forces, forget all of our jealousies and become the leaders or politicians, if you like, of the communities in which we live, and be in a position to know and lend sufficient influence in the selection

of those who are to represent us in both state and national legislatures. Then arises the question as to how the membership of our legislatures can be improved upon. The bodies are of unwieldly proportion in membership especially the lower house, and are shamefully underpaid, so there is not much wonder what men of ability refuse to accept the honor of representing their constituency. Each legislative session in Kansas seems to be more disappointing than the preceding ones, and I believe that insufficient pay is the chief reason for keeping the right kind of men out of our legislatures.

This problem is one for all states to seriously give consideration to as in all of them the same conditions exist and legislative results are very disappointing. As you all well know little or no attention is paid to the selection of legislative candidates, then after the session is over we are prone to complain when the final disappointing results become known as a part of our already unwieldly and in many instances ridiculous session laws. Then too, raising the pay of a legislator will not correct the present deplorable condition, unless our communities can elect men who will be broad enough and intelligent enough to accept and appreciate such election to the legislative bodies as a coveted and sacred honor. Our legislative bodies both national and state have grown so large and unwieldly that the element of distinction is lost and on account of this fact the right kind of men are unwilling to make the race. A smaller membership would unquestionably improve the quality and effectiveness of our legislatures. It would of course require a constitutional amendment to carry out this plan to procedure and I hope to live to see such a change made. Such a membership carefully chosen, would materially checkmate and put to rout such active and impressive lobbies as this one of the scientists has been and would also eventually do away with the cheap politician.

I am a Kansan, and it has been very aptly said "that you can always tell a Kansan, but you cannot tell him much." Kansas has been in the spot light for many years and I feel sure will always continue to be. At the last election Kansas voted by an overwhelming majority the much deserved bonus for twenty-five million dollars to pay the world's war veterans their just due. The interest of this bond issue just counterbalances the amount saved from appropriations of our last legislature. This bonus was voted at the close of a campaign in which tax reduction was the leading issue and on which platform an accidental Democratic Governor was elected.

Such results should warn the cheap politi-

cians of Kansas that a policy or platform of reducing taxes regardless of the consequences is not going to be effective or popular in the future. We are not a people in Kansas, who are afraid of taxation and I believe that those who were instrumental in the defeat of our health appropriations and of our educational appropriations and all other good measures are going to be shown very definitely that Kansas is not going to stand for such actions in the future, but rather that we intend to continue on the forward move for progress, good schools and good health. We make our greatest boast of our civic pride in our fine school systems, in our splendidly organized boards of health and disease prevention clinics, in our paved streets and hard surfaced roads, in our municipally owned water, electric and gas plants, in our beautiful parks and play grounds and in all of our many modern civic improvements that mean so much to the health and welfare of our children, whom we consider our greatest asset. I feel sure that Kansas will in no uncertain way, very positively serve notice on the Christian scientists and others that she will not stand in the future for any destructive lobbies or programs that will either affect our health or our happiness. We want everybody to know that Kansas is the kind of a state that takes great pride in her civic beauty, good roads, modern civic life and a program for good health of a definite and practical kind and in modern living, rather than in the howling rant for a lower tax rate from the cheap politician or the bombastic and undermining schemes of these insane delusionists the misnamed Christian scientist.

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Focal Infection of Dental Origin and Principles Governing Its Removal.

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Read before the Joint Meeting of the Wyandotte County Dental and Medical Societies, April 28.

In considering focal infection from the viewpoint of the oral surgeon, the following three hypotheses will be considered. 1. That it is accepted as axiomatic that the principles of focal infection apply to numerous disease conditions such as acute and chronic arthritis, certain acute and chronic nephritides, certain neuritides, myocarditis, endocarditis, myositis, certain gastric and duodenal ulcers, cholecystitis, etc. 2. That organisms with selective localization properties commonly reside in the diseased processes involving the teeth and jaws. 3. That often the existence of such dental foci have been demonstrated and their removal decided upon. After adequate study of the general disease

problem such surgical procedures must be instituted as will give assurance of the complete removal of the foci in question.

My discussion has to do merely with the diagnosis of the existence of such foci, with the estimation of the character and extent and with the proper methods for their removal. I wish, however, to emphasize in passing, the extreme importance of the general diagnostic problem involved. Much of the disrepute into which extensive dental removals has fallen in due to incomplete study of the patient's general disease problems. The same care should enter into the decision to remove a mouth infection as is accorded the decision for a major abdominal operation. An extensive removal of mouth infection should never be embarked upon without intensive study of the patient, including a complete physical examination and whatever laboratory tests that may possibly afford information of value, for example, Mr. XXX.

During the progress of disease of the investing tissues of the teeth in the form of pus pockets along the side of the roots, or chronic alveolar abscesses there is a continuous inflammation of low degree and almost constant suppuration and the pus formed usually is itself undergoing putrefactive decomposition through the growth of the saprophytic organisms.

Foci of infection in the mouth are in the same causal relation to arthritis endocarditis, nephritis, cholecystitis, etc., as are infected tonsils or chronic suppurations in any other site in the body, whatever variation in degree may possibly exist.

Focal infection or sepsis, is without any exception the most prevalent infection operating in medicine and a most important and frequent cause and complication of many so-called medical diseases. Its ill effects are wide-spread and extend to all systems of the body.

The relations between these effects and the infection that causes them are constantly overlooked because the existence of the infection is itself overlooked. For one of the chief seats of that infection is in the mouth, and the sepsis itself, when noted, is erroneously regarded as the result of various conditions of ill health with which it is associated, not as it really is, the important etiological factor.

The effects of sepsis are not the same in all classes any more than are the effects of septic infection in surgery or those of tuberculous infection in medicine. They affect sometimes one system and sometimes another, in different degrees, depending upon the individual susceptibility, just as a chronic tu-

berculous infection may in one case affect the glands of the neck, in another the joints, the lung, the peritoneum, the meninges and so on. Also at times it may affect all these systems.

The *storm center* in all dento-alveolar disease is pericemental membrane. This membrane is detached from the cementum by supuration and is the important factor in establishing the chronicity so characteristic of mouth infection. As a result of infection, the cementoblasts which overlie the surface of the cementum within the pericemental membrane are also destroyed. These are the only cells which can bring about re-attachment of that tissue to the tooth and the socket. With the death of these cells, the life and usefulness of the teeth are limited. Soon after detachment, the fibers of the pericemental membrane which formerly passed from the cementum of the tooth of the detached area to the alveolus, disappear, and a little later this bone to which these fibers were attached, is absorbed. Thus, in addition to the fact that the denuded cementum, is dead, all of the specialized elements necessary to the connection of tooth root with adjacent bone are lost and a re-attachment of this tissue to the cementum of the root can not take place. (In other words, the tooth has permanently lost contact with the alveolus.) Therefore pockets persist about such teeth and are subject to continuous re-infection. In many cases healing is only apparent and not a reality. While in the case of the chronic alveolar abscess the chronicity may be maintained by the dead pulp of the unfilled or filled root canal or by the denuded cementum about the end of the root. If the cementum has been detached the condition is practically the same as the pus-pocket which is open at the gingival line, so far as the continued chronicity is concerned, as there is no possibility of a re-attachment. The presence of such a focus does not indicate that the person is suffering from systemic effects, but it is potentially dangerous. This is a question of the resistance of the tissues or of individual immunity.

On the other hand it should be remembered that the definite secondary lesions resulting from these foci are of such gradual onset that they are occasionally not recognized by the patient, and do not come to the attention of the physician until they have made such progress as to the incurable or at least, very resistant to treatment. Theoretically, this fact demands the eradication of the foci, for the protection of the health of all persons, whether apparently suffering or not. But teeth are useful and can not be sacrificed with the same sang-froid with which we delete ton-

sils. Therefore we often feel that it is the part of wisdom to advise patients in good health to take a chance and hang on to necessary teeth though these teeth may show evidence of indolent infection. This does not apply, however, to extensive infection involving many teeth and showing widespread destruction of the alveolar process. Nor does it apply to patients showing definite symptoms traceable to foci of infection.

Any new procedures which tend to depart from the old, however inadequate the old may be, are not usually met with much enthusiasm, on the contrary, it is the rule that they are accepted slowly. It is not easy for men who have been doing things a certain way, teaching and advocating certain methods to renounce them, much less admit the fallacy in the things they have been teaching and doing. We are all prone to meet progress reluctantly, especially if it demands that we stop doing things in the manner in which we have been doing them and as we grow older we are likewise reluctant to take up the new even though we are able to see its application and its true advantages. This is all too much. (With apologies to Nietzsche.)

It is difficult to accept the obvious. We all see the trend of the times in preventive medicine, yet we do not accept and apply it in our daily practice. Not until it has been forced upon us by the truth of its application will we accept. So does habit of mind determine our attitude to mouth infection.

Focal infection as a cause of or a contributing factor to remote disease is an established fact. The careful work done by many throughout the country notably Billings, Rosenow, and co-workers, has proven this.

Less serious attention seems now to be given the teeth and jaws in their relationship to disease problems than was given a few years ago. Failures and disappointments in large numbers of cases probably is a reason for this attitude of inactivity on the part of many. Improper evaluation of the factors entering into the problem doubtlessly may be a cause for unhappy results.

Inadequate surgical technic in removing mouth pathology, (diseased bone contiguous to root ends of non-vital teeth, pericemental membrane, etc.), is one of the great causes for failure to obtain decisive results. It is then incumbent upon us to change our methods of treating bone disease of the jaws. The least the oral surgeon can do is to get rid of the disease. If he fails to do this, he had almost better not have worked at all. It would seem to me that the lantern demonstration which follows should establish this contention, the whole of which demonstration is to show what

mouth disease is, how it may be recognized, and finally how it may be removed.

ANATOMICAL PROBLEMS

The embryological development of the jaws and the subsequent growth of the jaws after birth is an intensely interesting study but can not be taken up in this paper other than as it pertains to the pathology of infection and to technic.

Suffice it to say that the alveolar process develops as the teeth develop and take their relative position in the jaws, and that when the teeth are lost or lose their function, resorption of the alveolar process wholly or in part, inevitably follows.

It may be of interest at this point to state that while the growing tooth germs are producing pressure which is transmitted to the cortical plates, the growth of the tissues within the mouth, the tongue and the associated organs is exciting pressure upon the lingual surfaces of the bone. The muscles attached to their surfaces transmit force to the bone through the periosteum, and the function of mastication, deglutition and respiration are acting upon them. All of these are mechanical stimuli to which the connective tissue cells respond. In all the process development the growth is the result of all the forces to which the bones are subjected, perfectly distributed through the substance of the bone by the agency of normal occlusion. Any lack of harmony in the proportion of these forces may allow the teeth to meet when they erupt outside of the normal influence of their cusps, causing the beginning of mal-occlusion, (and possible subsequent disease.)

Peridental or pericemental membrane may be defined as that tissue which fills the space between the surface of the root and the bony wall of the alveolus and supports the gingivae. In a sense it is the most important tissue to the dentist, for upon it the usefulness of the teeth and their comfort to the individual is dependent. It makes no difference how perfect a crown may be, or how perfectly any damage which may have occurred to it may have been restored, unless the pericemental membrane is in a healthy and fairly normal condition, the tooth will be temporarily useless and the individual would be much more comfortable without it.

The relation of disease at the root ends of teeth contiguous to the maxillary sinus is of paramount importance. Maxillary sinus disease caused by the infection from the teeth is more common than is usually recognized.

The diseased bone in proximity to the sinus is one of the important factors which should not be overlooked. Attacking sinus disease

of dental origin through the nose will not afford satisfactory results. Properly managed there will not be a loss of teeth other than those which are a part of the disease.

THE PATHOLOGICAL PROBLEMS

The objective involved in the accomplishment of these principles may be summarized as follows:

Step 1. An ocular observation of disease to be removed.

2. The certain removal of the infection.

3. The leaving of the tissues in the best possible condition, no jagged bone, infective granulation tissue, etc.

4. The least possible trauma to important tissues, blood and nerve supply, etc.

5. The collapse of the bone cavity as far as possible.

6. Irrigation daily of hot salt solution or one-half of one per cent lysol solution. Most important are hot irrigations following all mouth surgery, the mouth harboring so many infective pathogenic micro-organisms must of necessity require irrigation to keep the parts clean.

The anesthetic of choice in my hands is novocain by nerve blocking for the reason that it affords ample time to give a careful, painstaking service with the co-operation of the patient, practically no shock, etc.

This class of surgery should be done in the hospital where it can be done in appreciation of those principles well understood by all surgeons. Yet it is difficult to sell this to the profession, to say nothing of the laity. Sterile gauze wrung of hot water should always be used around the mucous membrane. Moreover, the hospital affords a better working out of the problem and a better evaluation of the disease of the jaws to the gross problem and greater certainty of effective after treatment.

COMPLICATED PROBLEMS

Involvement of the floor of the maxillary sinus.

a. Mucous membrane perforated.

b. Mucous membrane not perforated.

c. Granulations and diseased bone in proximity, to sinus can be perfectly removed.

d. Neurological complications.

e. Cystic involvement of the jaws.

1. Non-extensive.

2. Extensive.

f. Ludwig's angina.

g. Necrosis following improper surgical technic.

Severe Vincent's infection should always be ruled out. Many severely complicated cases have been reported as a result of this oversight.

Imbedded and impacted molars.

Imbedded and impacted cuspids.
Restorations.

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—B—

"Laboratory Examination of the Blood, and the Interpretation of Laboratory Findings."

T. R. CONKLIN, JR., M.D., Abilene

In the short time that I have at my disposal, I cannot hope to give more than an outline of my subject, "Laboratory Examination of the Blood, and the Interpretation of Laboratory Findings." Therefore, I hope that you will pardon me if the discussion seems somewhat sketchy.

Under this heading are several divisions of the subject, the more important of which I will enumerate as follows:

1. Enumeration of blood cells.
2. Study of stained smears.
3. Estimation of hemoglobin.
4. Color index.
5. Coagulation time.
6. Wassermann reaction.
7. Blood chemistry.

Enumeration of red cells or erythrocytes. The normal red cell count in men is about 5,000,000 per cubic millimeter, in women about 4,500,000 per c. mm. In persons living in high altitudes this count is found to be somewhat higher than this, as more cells are needed to carry the oxygen and to collect it from the rarefied air.

The red count is also found to be high in conditions in which the blood is concentrated, as in severe watery diarrheas, in some chronic valvular lesions of the heart associated with cyanosis, and in idiopathic polycythemia, in which there may be a red count as high as ten or twelve million.

Decrease of red cells, or oligocythemia, occurs in any condition in which the blood is depleted, and is usually spoken of as an anemia of one or other type.

Perhaps the lowest red counts are seen in pernicious anemia, in which counts of less than one million have been reported. It is not at all uncommon in pernicious anemia to see counts of two million or even $1\frac{1}{2}$ million per c. mm. In the secondary anemias, those due to hemorrhages, debilitating diseases and so forth, the count, while being low, is seldom as low as that found in the pernicious form. While there may be a slight lowering of the red count in chlorosis or "the green sickness," it is seldom marked.

Enumeration of white corpuscles, or leucocytes. The normal leucocyte count is about 7,500 in adults, about 8,000 to 10,000 in very young children.

A decrease in leucocytes, or leucopenia, may occur in infections so severe that they overwhelm the protective forces of the body, and in some infectious diseases, for instance, influenza, measles, German measles, tuberculosis, typhoid fever, in which diseases, an increase in leucocytes means a purulent complication.

An increase in the leucocyte count, commonly spoken of as leucocytosis, may be either physiologic or pathologic in nature. Physiologic leucocytosis is not important, so I will merely mention it. In this form, the count is seldom over 12,000 and occurs in the new-born, during pregnancy, during the height of digestion, and immediately after cold baths.

Pathologic leucocytosis is the form in which we are chiefly interested, and I will try to give some idea of its occurrence and meaning. Except in the leukemias, the degree of leucocytosis depends on the severity of the infection and on the resistance of the patient. A high count shows that the body is reacting well to the infection, while a low count may mean a slight infection, or a low resistance. For instance, a severe streptococcic infection that is rapidly overwhelming the resources of the patient, may produce only a moderate leucocytosis. In the same way, a sudden infection in which the body is suddenly called on to resist a severe infection, may cause a lowering of the leucocyte count. As an example, immediately after the rupture of an appendiceal abscess, with a beginning peritonitis, it is not uncommon to find a count even lower than normal. In a case like this I have seen a count as low as 4,000 per c. mm. This count soon rises, as the body reacts to the infection. A steadily increasing leucocytosis, even though not high, means a steady progress of the infection. This is especially of value in judging the progress of cases of appendicitis. One is not justified in trying palliative measures in appendicitis when the count is over 12,000. A leu-

cocyte count of 20,000 in appendicitis nearly always means an appendiceal abscess.

In pneumonia, the average leucocyte count is between 20,000 and 50,000. Counts lower than this usually mean a low resistance to the infection, and paradoxically, counts higher than 50,000 mean about the same thing, in other words, are of grave prognostic import.

Most infectious diseases, with the exception of those mentioned before, give an increase in the leucocyte count. There is a marked leucocytosis, the increase being chiefly in the lymphocytic cells, in pertussis. This reaches its maximum during the height of the paroxysmal stage, and the usual count at the maximum is somewhere about 27,000.

A leucocytosis is found in about one-half the cases of malignant disease, being found more commonly in cases of sarcoma than in cases of carcinoma.

Following a hemorrhage, we usually find a moderate leucocytosis, being most marked in cases of ruptured tubal pregnancy, in which an increased leucocyte count is one of the points in differential diagnosis. In cases of this kind, it is not uncommon to find counts as high as 35,000.

Another form of pathologic leucocytosis occurs in leukemia, in which an accurate diagnosis is difficult to make without the blood counts. In myelogenous leukemia, the counts run everywhere from 100,000 to 400,000 per c. m., or even higher, while in the lymphatic form, the counts are usually from 15,000 to 100,000 although they may be higher. I will say more about the leukemias later.

Our standard of hemoglobin, spoken of as 100 per cent, approximately normal in adult males, is an average amount taken from the examination of a good many samples from healthy men. It corresponds roughly with about 17 grams of hemoglobin to 100 cubic centimeters of blood. The normal hemoglobin of females is about 90-95 per cent.

The percentage of hemoglobin varies considerably with age. For instance in the newborn, the percentage is high, up to 130 per cent, gradually decreasing so that at the age of 2 to 3 years it stands at about 75 per cent. From then on, it gradually increases the adult normal, decreasing again with old age.

The percentage of hemoglobin is found to be increased in those living in high altitudes, in diseases in which there is a concentration of the blood, and in polycythemia.

The percentage is lowered in the anemias, especially in secondary anemia, and in the leukemias.

The color index is a computation made from the red count and from the hemoglobin determination. It represents the comparative amount of hemoglobin carried by each red

cell, compared with a normal which is taken as one. It is found by dividing the percentage of hemoglobin by twice the first two figures of the red count. Thus in a normal case, with a hemoglobin of 100 per cent and a red count of 5,000,000, the determination would be made by dividing 100 by 2×50 giving a color index of 1.

The color index is increased in pernicious anemia, decreased in secondary anemias and in chlorosis.

The coagulation time or clotting time, is the time expressed in seconds or minutes required for the blood to form a clot. The normal time, taken on the finger or ear, is 20 to 50 seconds, taken on a glass slide, from 1 to 3 minutes. This time is found to be increased in cases of hemophilia, purpura, scurvy, and in icterus. It is of importance especially in guarding against operative or post-operative hemorrhage, and should be determined before operation in all suspicious cases.

The study of stained smears of the blood is of advantage in determining the various types of anemias, differentiating the two types of leukemia, and in looking for blood parasites.

The red cells are studied chiefly in the anemias and in malaria. In malaria the plasmodia are found within the red cells, but as there is so little of this disease here, I will only mention it. In pernicious anemia, variations in size of the red cells, spoken of as anisocytosis, in shape, called poikilocytosis, and young cells, still containing a nucleus, are found, while the cells are all full-colored, showing that they contain an excess of hemoglobin.

In the secondary anemias, unless very severe, no nucleated reds are found. In these cases, the cells are pale, or even ring shaped, showing a lack of hemoglobin.

Ordinarily in examining a stained smear, a differential count of white cells is made. This is done by counting a certain number of white cells, usually 300-400 and determining the percentage of the various types. I will enumerate and discuss the various types separately.

1. *Lymphocytes*—These normally make up about 25 to 33 per cent of the total number of white cells and are found to be increased in pertussis, chlorosis, pernicious anemia, debilitating diseases such as tuberculosis, and especially in lymphatic leukemia, where they may make up from 90 to 95 per cent of the total number of white cells.

2. *Large mononuclears and transitional cells* ordinarily make up about 2 to 5 per cent of the white cells. This percentage is found to be increased in typhoid fever, malaria, and in Hodgkin's disease.

3. *Polymorphonuclear Neutrophiles*—Average normally 60 to 70 per cent. This is increased in all purulent conditions.

4. *Polymorphonuclear Eosinophiles*—Normal average 1 to 4 per cent. This percentage is found to be increased in all cases of intestinal worms, in true bronchial asthma, in scarlet fever, pemphigus, prurigo, psoriasis, and in all cases of anaphylaxis.

5. *Polymorphonuclear Basophiles*—Normal average about 0.5 per cent. This percentage is found to be increased in myelogenous leukemia.

6. *Myelocytes* and young cells are never found normally in the blood. They occasionally are found in cases of severe infection with a very high leucocytosis, but are seldom found except in cases of myelogenous leukemia, of which they are practically pathognomonic, and in which they occur in large numbers.

7. *Myeloblasts*—These cells are even younger or more immature than myelocytes, and are never found except in cases of myelogenous leukemia.

I will now give the characteristic blood picture in a few of the diseases that I have mentioned.

1. Pernicious anemia—Low hemoglobin, red count comparatively low, so that there is a high color index. In the smear, poikilocytosis and anisocytosis, nucleated red cells. Increased percentage of lymphocytes.

2. Secondary anemia—Hemoglobin comparatively lower than the red count, so that there is a low color index. Red cells are pale in the smear.

3. Chlorosis—Red cell count only slightly lower than normal, hemoglobin low. Low color index.

4. Myelogenous leukemia—The blood picture of a secondary anemia, plus a very high white count, with a very large percentage of myelocytes, and a few myeloblasts.

5. Lymphatic leukemia—Secondary anemia, high white count, large percentage of lymphocytes up to 95 per cent at times.

I won't take the time to discuss blood grouping, and will only mention blood matching. In matching bloods preparatory to transfusion, it is safe to give blood, provided that the serum of the patient does not cause an agglutination of the cells of the donor.

Just a few words about the interpretation of the Wassermann reaction. The strength of the reaction is usually given as 1, 2, 3 and 4 plus. This is an arbitrary division, representing the degree of hemolysis in the test, and naturally varies with different observers. Thus one observer might call a reaction 3 plus, while another would label it a 2 plus.

A 1 plus is merely a doubtful reaction, unless it is known that the patient has had syphilis, or has had a stronger reaction at a previous test. 2 plus is a weak reaction, 3 plus a moderate, and 4 plus strongly positive.

Jaundice and marked alcoholism may give a negative reaction from a positive case of syphilis.

It is said by some that scarlet fever, leprosy, active malaria and malignant tumors may give a positive reaction, but this point is in dispute, and in view of the fact that there are so many cases of latent syphilis with a negative history, cases of these kinds which give a positive Wassermann, probably have syphilis as well as the other trouble.

The positive reaction is not given by the blood for from 2 to 3 weeks after the appearance of the chancre, so that a negative reaction before 2 or 3 weeks have elapsed means nothing.

In latent syphilis we may get a weak reaction or even a negative reaction in the blood, while a Wassermann on the spinal fluid of the same patient may give a strongly positive reaction.

A negative reaction soon after an energetic course of anti-syphilitic treatment does not mean that the patient is cured, as the reaction may become positive again later, and one can only be sure of a cure after repeatedly negative Wassermans on both the spinal fluid and the blood covering a term of several years. Even after this precaution occasionally a patient will be inconsiderate enough to develop paresis or tabes.

Blood Chemistry. One of the most important of the determinations made on the blood is the calculation of the nonprotein nitrogen content. The upper limit of normal of nonprotein nitrogen in the blood is 35 milligrams per 100 cc. of blood. In cases in which there is deficient elimination of protein waste products this content is increased, for instance in cases of prostatic obstruction. In other words, the NPN is an index of renal function or lack of function. A patient with a high NPN, although apparently healthy in every other way, will probably develop uremia if any severe operation is done on the urinary tract.

The urea nitrogen and creatinin are also determined at times, but are unnecessary, as the NPN gives the same information.

The upper limit of normal of sugar in the blood is 0.15 per cent. The blood sugar content is increased in diabetes and in exophthalmic goiter. It is also of value in differentiating a true diabetes from a renal glycosuria, in which the blood sugar is not higher than normal.

BELL MEMORIAL HOSPITAL CLINICS

Department of Gynecology—Dr. Irland, Attending.

BILATERAL DERMOID CYST OF THE OVARY

This patient, white woman, 26 years old, married, living in Kansas City, Kansas, entered the Eleanor Taylor Bell Hospital July 5, 1922. The history is as follows:

Chief complaint—Soreness in lower right abdominal quadrant. Also two tumor masses here.

Present Illness—Soreness or hurting began about two years ago. Pain always dull, never sharp, never radiates. The mass has grown very slowly until two months ago when the growth rate became much more rapid and the second mass was noted. Frequent urination day and night, no burning; but if not able to void immediately on impulse there is marked pain and difficulty in starting. No leucorrhoea; no menstrual disorder; no abnormality in her obstetrical history except a miscarriage at one month last pregnancy. Two living children born at term. No complications followed miscarriage, and she had had the pain complained of now before miscarriage occurred.

Her past history as to disease is negative of interest, and her family history presents nothing bearing on this case.

Physical examination—General appearance good. Weight 150 pounds; height 5 feet 6 inches; ambulant; blood pressure 118-68; no deformities; reflexes all present and normal; teeth and gums in good conditions; light redness in fances; thyroid somewhat enlarged palpable. Chest: Lungs show good percussion note; no dullness; no rales or other disturbance of breath or voice sounds. Heart shows no murmurs and no variations from normal area of cardiac dullness. Abdomen: No palpable masses, tenderness or rigidity in upper abdomen. In right iliac region midway between the anterior superior spine and the midline is a rather hard, mobile, tender mass the size of a pear. Above and to the right of this mass is a smaller one about the size of a lime, freely movable, not tender and of a cyst-like consistency. About three finger breadths below the umbilicus and to the left for about five inches is a smooth cyst-like mass, somewhat tender, extending into pelvis. Pressure on these masses gives a sense of fullness of the bladder.

Vaginal Examination—External genitals normal. Perineum and cervix not deeply lacerated. Entire pelvis is full of a large cystic mass. The cervix is pushed high up and to the right immediately behind the symphysis. The mass above it gives the impression of

being the uterus on account of its size, shape and consistency, and because movements of this mass are participated in by the cervix. Urinalysis, blood examination, Wassermann test negative.

Pre-operative diagnosis—Bilateral Ovarian Cyst.

Comments during operation—We have opened the abdomen in the usual manner and the first things to be noted are the unusually high position of the bladder pushed up by the underlying mass; that the larger mass on the right side is the uterus and the smaller one looks like an enlarged right ovary with a greatly thickened tunica albuginea. Packing off the intestine we now expose a large cyst behind and below the uterus almost completely filling up the pelvis. There are no adhesions and the delivery of this cyst is therefore quite easy. On closer inspection the tube is seen to be a part of the cyst wall. As its pedicle is long we shall doubly clamp it and cut between the clamps. Now we shall securely ligate the proximal stump and cover its raw surface by a small fold of the broad ligament secured by a single stitch.

Now the uterus falls easily back into its normal position. The small mass on the right side looks like an ovarian abscess so we shall carefully protect the other viscera with abdominal packs and open it. We are mistaken in our diagnosis for the material contained in the tumor is not pus but degenerated sebaceous secretion and there is a mass of hair in the center of the cyst. We have here a dermoid cyst, and shall remove it in exactly the same manner as we removed the cyst on the left side. The uterus is in good position and we shall now close the abdominal wound without drainage. The occurrence of a dermoid cyst in one ovary and of a simply multilocular cyst in the other is unusual; when both ovaries are affected it is much more frequently the same type of tumor. But this left side tumor has all the gross appearance of a simple cyst. (Note: The pathologic report shows the left side cyst to be a dermoid also.)

The pathogenesis of dermoid cysts is an extremely interesting subject. Just what relationship these innocent tumors bear to the malignant teratomata has yet to be clearly established. Whether they represent imperfect development of fertilized polar bodies; or whether they result from a separation of blastomeres in the process of segmentation; or whether they result from arrested or changed developmental rate in the embryo and represent included twins has not been determined.

Clinically these cysts usually are benign, but they may become malignant especially if they should contain thyroid tissue. They are

subject to inflammation and their contents are very irritating to serous and mucous membranes. However, when they are encountered without complications they offer nothing in the way of symptoms or physical signs that would enable the clinician to differentiate them from simple cysts of the ovary. They seldom become much larger than a man's fist; and give rise to symptoms only through pressure upon adjacent viscera. The treatment is excision as soon as the patient's condition permits. The results usually are good.

I should like to expand that phrase "as soon as the patient's condition permits." The time has passed when a patient may be taken into a hospital and rushed immediately into and through an operation. That mode of procedure has been, I am confident, responsible for a large percentage of bad results achieved in operative gynecology in the past generation. Today we are more deliberate about that part of our work. In this clinic no patient is operated upon, except in emergency situations, until she has been under observation in hospital for two days. During these two days we have ample time and opportunity thoroughly to work up every feature of the case and to determine whether there is any unsuspected lesion that would seriously increase the hazard of the operation.

But this is not the only benefit the patient gets from these two days. In nearly every case she comes into hospital with a definite horror of such institutions. This she loses very promptly and becomes mentally and morally tranquilized. We have an opportunity properly to empty her bowels and give it a chance to quiet down so that at operation it need not be handled very much. Her skeletal muscles have an opportunity to become relaxed with the result that much less anaesthetic is needed to maintain the proper degree of relaxation during the operation. These things are of extreme importance in limiting the post-operative shock and violent symptoms which mark the stormy convalescences commonly following operations upon patients who have not been properly prepared for the ordeal. If I can leave with you this thought of the importance of the preliminary care of operative cases my efforts this morning will be fully compensated.

A New Silver Antiseptic.

A silver antiseptic concerning which some remarkable claims are being made is Neo-Silvol (P. D. & Co.). Silver iodide is insoluble in water, but Neo-Silvol is a preparation of silver iodide that can be freely dissolved in water. Silver iodide is very sensitive to the action of light, but Neo-Silvol

solutions, we are told, do not darken as they dry. We are thus offered in Neo-Silvol a soluble silver iodide that does not stain. Moreover, it is said to be a very active germicide, equal to carbolic acid with respect to many organisms, and twenty times as active with respect to the gonococcus.

The explanation of the unique behavior of Neo-Silvol is given by the manufacturers in the statement that it is a colloidal form of silver iodide—the particles, so small that they pass through the finest filter paper, are kept in this individualized condition by a protective colloid. This colloidal substance is also to be credited, we presume, with the reputed blandness of the effect of Neo-Silvol solutions on inflamed mucous membranes.

A booklet on Neo-Silvol is offered to physicians, free, by Parke, Davis & Co.

Some Original Blood Pressure Observations.

Nearly four years ago, Virgil C. Kinney, Wellsville, N. Y. (*Journal A. M. A.*, June 16, 1923), noted "a complete reversal of the normal blood pressure reaction." In a large proportion of both the high and the low blood pressure cases, the blood pressure is higher in the patient lying supine than when the patient is standing. In a large majority of patients with heart and kidney disease who cannot breathe well lying supine, this phenomenon occurs. This reversal pressure is also to be found in low blood pressure cases. Kinney believes that the reversal reaction is due to a general lowering of the systolic pressure, the pulse pressure, a lessened cardiac load and a lowered cardiac response. Probably, the arterial, venous and capillary systems all undergo a simultaneous dilatation; and this, with a weakened myocardium would seem to explain the reversal phenomenon. Kinney also believes that some standardized system of taking blood pressure is needed, and that much more work remains to be done before blood pressure reactions can be interpreted in their truest sense.

Breast Carcinoma Treated Surgically and by Roentgen Ray.

The clinical and postmortem findings in two cases of breast carcinoma treated surgically and by roentgen ray are reported by Cassie B. Rose, Chicago (*Journal A. M. A.*, June 16, 1923). Both cases were treated surgically and by the roentgen ray, and in both a heavy shadow appeared on the chest roentgenograms after a considerable amount of exposure. In each case, the postmortem revealed pathologic conditions sufficient to account for the shadows on the roentgenograms of the chest.

THE JOURNAL of the Kansas Medical Society

W. E. McVEY, M.D. - - - **Editor**

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The Party or the Public?

A considerable number of the members of the Society are politically in sympathy with the Governor, and there are some who no doubt felt that some sort of upheaval in the Board of Health, such as was threatened, might be a good thing for all concerned, but certainly no one anticipated a situation such as developed—with two Boards of Health each fighting for possession of the office and the records—a situation which could not be regarded as very creditable to the medical profession from either a Republican or Democratic viewpoint. The decision of the Supreme Court was rendered promptly and further unpleasantness avoided for the time at least, and it must be admitted that the court followed the evident intentions of the law creating the Board of Health.

Those who prepared the law which created the Board of Health evidently recognized the inadvisability of abrupt or radical changes in its composition; and for this reason it was provided that the terms of three members only should expire each year so that there would be continuously a good working majority of those who had already become familiar with the duties required. While the health department is not thus divorced from politics the more dangerous effects of political interferences are minimized.

The law also provided that the secretary should not be a member of the Board but should be appointed by it. It is evident that in this provision also it was intended to provide against political interference with the functions of the health department. It was doubtless not expected but there should be some political preferment in the appointment of men to fill the annually occurring vacancies on this board, nor have our state executives neglected to consider party affiliations in connection with other qualifications of the applicants for these positions. It was expected however, that these provisions would prevent such a complete disruption of the health department as was threatened by our present executive.

An efficient health department such as that of which Kansas has been able to boast for many years, is a most important factor in the economic welfare of the state, and there is no political exigency that will justify jeopardizing its efficiency. There is no position in the health department that cannot be filled by either a Republican or Democrat if he be competent, but his competency is more important to the public than his party affiliation. Competency in this particular kind of public service is acquired by considerable effort and experience.

The resignation of Dr. Crumbine made it necessary that a new secretary be appointed; those of the Allen appointees whose terms of office had not yet expired met as the Board of Health and elected Dr. Nyberg to fill the vacancy. The men appointed by Governor Davis also met as the Board of Health and elected Dr. Matassarini to fill the vacancy. Both are men of recognized ability in the profession, both have had considerable experience in public health work, both are fully competent to render efficient service in the position to which they were elected, but, if prevalent rumor may be given any credence it was in the political program of the present administration to change the entire personnel of the health department which must surely lessen its efficiency for a considerable time at least. On the other hand it was the policy of the old Board of Health to maintain the department in its present efficient working

order. Therefore, with minds free from political prejudice, we must congratulate the profession and the public on what seems to be the wisest solution of a very unfortunate situation.

In his discussion of the Board of Health situation the Governor takes occasion to mention some of his objections to Dr. Crumbine as secretary of that department. Among other things he said: "He showed an utter disregard for the interests of the taxpayers from the time he became connected with the department until he left it." The Governor, however, does not say that the health department can be maintained at its present standard of efficiency for less than the amount of money appropriated for the purpose. If the "interests of the taxpayers" lie entirely in the size of the annual levy against their property then the health department can show no regard for the interests of the taxpayer and consistently perform the duties for which it was established; for the health department functions for the whole people—for as large, perhaps larger, proportion of those who are not taxpayers as of those who are. If on the other hand the interests of the taxpayers lie in the general economic welfare of the people—the whole people—their health, happiness, and prosperity—then the health department has shown marked consideration therefor.

Some of us have not forgotten the health department as it once was, when its most important function was to afford the party in power an opportunity to pay a few of its minor political obligations, when the secretaryship of the Board was a sinecure, when his official duties principally consisted in the preparation of an annual report. Turn, for instance, to one of these reports in the early 90's and one will find a financial statement of the Board for the fiscal year. In 1892, for instance, the total expenses of the health department amounted to \$3,500, and of this \$2,000 was for the salary of the secretary, \$500 was stated as "expenses incurred in connection with contagious and infectious diseases and sanitary investigations" (contingent fund); \$230 was for the secretary's

office rent; \$61.23 was for office furniture; \$465.58 was for postage and expressage. The balance was for the expenses of members in attending meetings of the Board. In those days it was customary for the secretary of the Board to maintain an office up town (at the expense of the state) and practice medicine, if he was fortunate enough to have already established a clientele, or if the prestige of his position enabled him to secure one. Such was the status of the health department when Dr. Crumbine first became its secretary. It is unnecessary to review, if it were possible, the steps by which the scope of this department's service has been enlarged and its benefits to the public extended. It is enough to say that the development of our public health service has been retarded only by the difficulty with which necessary appropriations could be secured from the successive legislative bodies. If there are any who deny to Dr. Crumbine the credit for developing the well organized, highly efficient, health department of which we are all justly proud, these must admit that he grew with his job—that his capacity grew in pace with the expansion and diversification of his official duties. That is enough to say of any man. It does not matter much by what epithet is described that characteristic or quality in a man that makes toward success in that which he undertakes; if "sublime egotism" is the proper term to use, then let us have more of it in the officials in all our departments of public service.

CHIPS

In the Medical Clinics for November Ottenburg reports in detail a case of pernicious anemia in which the patient is still alive and able to perform her household duties after having had the disease for thirteen years during which period she has had 30 blood transfusions and a splenectomy. She had also taken continuously from 15 to 30 minims of dilute hydrochloric acid after meals.

Radio may show us the error of our way in some things. Heretofore when our patient, sick in body or mind, said he heard voices or music, which we could not hear, we said he had illusions, hallucinations or delusions, but now we say he may have "hyperacusis," an abnormal acuteness of hearing, auditory hyp-

eresthesia, due to increased irritability of the acoustic nerve, in which ordinary noises and conversation sound so loud they become painful to the patient.

Carlisle, in his sketch of *Museus*, a German author, says that he died in 1787 and that his disorder was a "polypus of the heart." Modern text books give us no information as to what condition of the heart was so designated at that time. Probably a clot.

Where accurate records have been kept it is shown that in less than one-half of the cases of dyspepsia has a definite morbid state been determined. Muelengracht treated between 300 and 400 cases of dyspepsia in 1921. The usual functional tests were made in all and x-ray examinations in most of them. In more than half of them nothing was found to account for the dyspepsia and in from 60 to 70 per cent there were no definite signs to confirm the patients symptoms. In 30 to 40 per cent the signs found were of little diagnostic import. In one hospital 54 per cent of the cases of dyspepsia were labelled "ulcer" while in another hospital only 20 per cent were so labelled. In the majority of these cases, then, one man's guess is as good as another.

A man named Day married a Miss Weeks:

The best man at the wedding recited the following poem:

"A week is lost

A day is made

But Father Time need not complain,

For soon there will be days enough to make
a week again."

After the age of thirty, people who weigh less than the average have a better chance for long life, according to Dr. Louis I. Dublin, statistician of the Metropolitan Life Insurance Company. "Young persons may well weigh a number of pounds above the average called for by the tables. An excess of ten pounds is associated with the most favorable conditions among people between 20 and 25 years old. At 30, it is best for people to weigh about the average shown by the tables. After age 30, the longest life span prevails among those whose weights are uniformly below the average. The amount below the average should increase as people grow older and, at age 50, persons seem to be at their best when they weigh as much as thirty or forty pounds below the average."

Governor Davis' attitude toward Dr. Crumbine, former secretary of the Board of Health, reminds one of the woman who said to her newly born babe "You needed moving. You have shown an utter disregard for my feel-

ings and have been an increasing burden from the time you entered until you left your position."

Dear Doc:

I got your letter alright. I was too crippled to go to town to have my teeth x-rayed, but I sent both sets in by Bill, and the x-ray man sent me a typewritten statement which I enclose. I forgot to tell you in my first letter that the old mule stepped on my foot. My foot is some better since I been taking the medicine you sent the recipe for.

Yours truly,

Recently much publicity has been given to the power of epinephrin, when injected into the heart, to produce a response resulting in revivification when the heart has apparently ceased its action from certain causes. Of the many cases which have been reported, a remarkable one is that in which collapse occurred during an examination for extra-uterine pregnancy. After other methods had been tried without avail, an intracardiac injection of epinephrin was given. In ten seconds the heart sounds became perceptible. Four weeks later the patient was discharged as well. It must be borne in mind that the instances in which such restoration can be utilized are rare. When death comes as the result of the wearing away of tissues, as the result of toxic action of either bacterial or metallic poisons, or as the result of destruction of vital organs, it would be cruel and futile to arouse false hopes by what could only be a sensational experiment. (J. A. M. A., May 5, '23.)

For some years the Council on Pharmacy and Chemistry has urged conservatism in the adoption of the intravenous method of administering drugs. It has been necessary to do this to offset the propaganda of proprietary firms that, for commercial purposes, feature the indiscriminate use of intravenous therapy. In order that the status of this form of drug administration might be presented to the profession, and that it might be made clear under just what conditions the intravenous administration of drugs is warranted, the Council publishes a report prepared by a committee which studied the problems involved. The report discusses the fallacy of the arguments commonly advanced by those who advocate intravenous therapy as a routine. The Council has no desire to discredit the rational use of drugs by intravenous injection, but, on the contrary, it seeks to avoid the accidents and disappointments that must follow the abuse of a method which, rightly employed, may be a life-saving measure. The Council places itself on record as opposing the reckless and indiscriminate use

of drugs by intravenous injection with its attendant dangers and increased needless expense to the patient. However, the Council recognizes the legitimate, life-saving nature of the intravenous administration of drugs in extreme cases. (J. A. M. A., May 5, '23.)

There is a revival of interest in two gas anesthetics: ethylene and acetylene. Both gases were the subject of experiment in anesthesia many years ago. The studies of A. B. Luckhardt and J. B. Carter and of W. E. Brown with ethylene confirm the earlier experiences and hold out promise of the usefulness of the gas. In the recent experiments with acetylene the objectionable odor of the gas has been overcome by the addition of oil of pine. A mixture of acetylene, 40 parts, and oxygen, 60 parts, flavored with oil of pine, has been used in major operations. The advantages claimed for acetylene are: rapid induction; simplicity of administration; safety; absence of struggling and excitement, and rapid recovery. Both ethylene and acetylene are asphyxiants. Their usefulness in relation to that of nitrous oxid, and also to ether, remains to be demonstrated. (J. A. M. A., May 12, '23.)

The Council on Pharmacy and Chemistry publishes a preliminary report on the experimental status of Tryparsamide. The drug is an arsenical developed in the Rockefeller Institute for Medical Research. Pending the outcome of clinical studies, the substance is not offered for sale. Tryparsamide is primarily a trypanocidal agent, but it possesses some spirocheticidal activity. It is said to produce "tonic" effects. It is proposed for use in the treatment of trypanosomiasis, syphilis of the central nervous system and late stages of syphilis with inactive or indolent lesions, and it is said to be specially indicated in the treatment of cachectic individuals. The Council states that the favorable reports of the effect of Tryparsamide on trypanosomiasis and neurosyphilis appear to warrant controlled trials of the drug in these conditions, but also warns that the possibility of harm to vision must be given due consideration. The Council postponed the acceptance of Tryparsamide for New and Nonofficial Remedies until its therapeutic value and safety are established, and until it is on the market. (J. A. M. A., May 26, 1923.)

"It is an extraordinary fact that, by application of the Schick test for diphtheria there were found to be sixty or seventy-five per cent of susceptible children in the schools located in the better sections of the city compared with fifteen to twenty-five per cent in the schools located in the poorer sections," says

Dr. Zingher, writing in mother and child, the official organ of the American Child Health Association. "The racial and hereditary family factors also seem to have some influence on these results. Some of the highest percentages of positive Schick test have been found in families of native American stock. Fairly higher percentages have also been found among the colored children. On the other hand children of Italian extraction have shown the smallest proportion of susceptible individuals.

In English Antonyms, Synonyms and Prepositions, by Fernald, the following definitions are given of delusion, illusion and hallucination.

A delusion is a mistaken conviction, an illusion is a mistaken perception or inference. An illusion may be wholly of the senses; a delusion always involves some mental error. In an optical illusion the observer sees either what does not exist, or what exists otherwise than as he sees it, as when in a mirage distant springs and trees appear close at hand. We speak of the illusions of fancy or of hope but of the delusions of the insane. An hallucination is a false image or belief which has nothing outside of the disordered mind to suggest it; as the hallucinations of delirium tremens.

A new use for scopolamin has been discovered. It compels the victim under its influence to tell the truth.

Dr. Hause of Texas reports recent tests on seven prisoners in the Dallas jail of whom six were cleared of the charges against them and one was convicted as a result of the tests. The man convicted gave information which caused the arrest of two additional men, not before suspected and both confessed.

Scopolamin has been used to produce twilight sleep in accouchments and at certain stages in coming out from under the influence of the drug the patient would tell all she knew if questioned properly.

He also concocts a plausible and ingenious theory as to the cause of the mental phenomena and the result. He says it takes less effort to tell the truth than to construct a lie and that the mind under the influence of scopolamin takes the course of least resistance.

But the thought occurs that by skillful questioning similar results might be got at certain stages by other analgesics and anesthetics. We will bide our time.

The doctor says further that the courts in Texas have convicted a number of suspect criminals on scopolamin evidence. The evidence smacks a little of the Abrams blood

test, of the father's blood reacting the same as the child thus proving its parentage. There is probably a little more colorful evidence in favor of scopolamin and other anesthetics. (The Prodigal.)

SOCIETIES

HARVEY COUNTY MEDICAL SOCIETY

The Harvey County Medical Society met June 7th at the Country Club at Newton, Kansas at 2:00 p. m. The McPherson County Medical Society and the wives of the members of both Societies were invited guests. Owing to bad roads and threatening weather, the attendance from McPherson county was small. Dr. and Mrs. L. F. Quantius, Dr. and Mrs. C. R. Lytle of McPherson; Dr. and Mrs. W. R. Jones of Canton; Dr. and Mrs. Robb Stapp of Moundridge, and Miss Gronewald, Superintendent of Nurses of the McPherson Hospital; Dr. and Mrs. V. E. Chesky, Dr. and Mrs. D. B. Thomas, Drs. F. Helwig, J. D. McMillion, Agnes Huebert, and Kocher of Halstead; Dr. and Mrs. R. O. Howard of Sedgwick, Dr. E. H. Norris of Whitewater; Dr. and Mrs. D. C. Stahlman of Potwin; Dr. and Mrs. R. C. McClymonds of Walton. Dr. and Mrs. A. J. Wedel of Hesston; Dr. and Mrs. M. C. Martin, Drs. J. T. and Lucena Axtell, Dr. and Mrs. R. S. Haury, Dr. and Mrs. R. H. Hertzler, Dr. and Mrs. L. T. Smith, Dr. and Mrs. Jno. L. Grove, Dr. and Mrs. H. M. Glover, Dr. and Mrs. E. A. Kalbfleisch, Dr. and Mrs. R. C. Porter, Dr. Max Miller, Dr. and Mrs. J. H. Enns, Dr. and Mrs. J. W. Graybill, and Dr. and Mrs. Frank L. Abbey of Newton were present. The physicians met in the gentlemen's room and listened to the following papers: "Post Operative Thrombo-Phlebitis," by Dr. McMillion; "Significance of Abnormal Blood Pressure," by Dr. Max Miller. "Conduct of Labor," Dr. R. H. Hertzler; "Tonics and Sedatives," Dr. R. C. McClymonds. The papers were well prepared and elicited general discussion. Dr. R. H. Hertzler and Dr. R. S. Haury were appointed a committee to convey the sympathy of the Society by suitable expression to Dr. O. W. Roff on the death of his wife and to Mrs. A. E. Smolt on the death of Dr. A. E. Smolt. Dr. Smolt is the first member of the Society to be lost by death in the twenty years of its history.

The ladies were entertained by a program prepared by Mrs. Jno. L. Grove, Mrs. E. A. Kalbfleisch and Mrs. R. S. Haury consisting of music, readings, and a chalk talk and also by a social meeting on the veranda overlooking the links of the country club.

All met at a well appointed dinner at which

fifty-two covers were laid. Pres. M. C. Martin and Dr. Lucena Axtell on the part of the hosts gave hearty welcome to the McPherson county guests who happily responded through Dr. C. R. Lytle and Dr. Rachel Quantius. Dr. L. T. Smith with "Once Upon a Time," started the telling of many jokes and stories till it was time for the guests to depart for home. McPherson has invited "Little Harvey" to come to McPherson in the fall and we are going.

FRANK L. ABBEY, Sec.

DEATHS

Dr. Alfred E. Smolt, of Newton, Kansas, died at Trinity Lutheran Hospital, Kansas City, Mo., Saturday, June 2nd, 1923. He was taken suddenly sick with a severe hemorrhage from gastric ulcer February 14th of this year and never rallied.

Dr. Smolt was born October 24, 1871, at Paw Paw, Ill., graduated at Rush Medical College in 1897. For several years he had charge of a hospital at Stillwater, Minn. He located in Newton, Kansas, in 1900, and has been in continuous, active practice since that time. He was a member of the American Medical Association, of the Kansas Medical Society, and one of the most faithful members of the Harvey County Medical Society. He was local surgeon for the A. T. & S. F. Railway Co. He practically gave his whole time and attention to his profession and very little to recreation or to other business. He was a good friend, an ethical physician, an honorable man.

He leaves a wife and two sons, the older one beginning the study of medicine at the University of Kansas.

Dr. A. Puderbaugh, Osawkie, Kansas, died at Kansas City, of organic heart disease at the age of 86 years. He was an early Kansas settler, coming to Osawkie in 1862. He graduated from the Kansas City Medical College in 1882 and continued in practice at Osawkie until 1922.

An Explanation.

June 5, 1923.

Editor Journal,
Topeka, Kansas.
Dear Doctor:

I just returned home from Europe, last week and on my arrival in New York, with others on the boat, I got in conversation with a newspaper reporter, much to my sorrow. In the course of our conversation, I mentioned the fact that I was interested in the work of Prof. Bell of Liverpool, on cancer, and thought he was working along the right line,

and I hoped through his work, we would be given a cure for the inoperable cases.

The next morning all the New York newspapers had purported interviews with me, in which I was quoted as saying, that he had discovered a specific cure, and had treated fifty cases without recurrence. Of course I made no such statement, and had no expectation of anything of the kind getting in the papers.

On my arrival home I found hundreds of letters from cancer patients from all over the United States, desiring information and treatment, I have endeavored to answer these and correct the impression, which was broadcast, stating that Prof. Bell has never made any such claims, that the report was premature, and exaggerated, and was strictly in the experimental stage, advising each patient to get in touch with his own physician, and follow his advice, and also stated that Prof. Bell's preparation was not available anywhere.

I am explaining this, so that if you see fit to make a note in the "Journal" about the above, or any part of it, I would be glad to correct the impression, which the Associated Press has unfortunately sent all over the United States and Canada.

I had a wonderful trip and very good work, while away. I was with Dr. Belot in Vienna, the last part of my stay. He expects to be there for probably six months or a year yet, and Dr. Porter Brown left for Vienna, Saturday for work.

With best personal regards, I remain

Yours very truly,

L. E. HAUGHEY.

—B—

Manifestations of the Female Castration Complex.

Abraham summarizes and elaborates herein a finding of psychoanalysis often referred to and usually not made clear. It was presented by Abraham at the Sixth International Psychoanalytic Conference. (The Hague, 1920.)

The thesis deals with the well known wish of many women that they had been born male instead of female. It holds that this wish is manifested both in its conscious and in its unconscious aspects and that the repressed wishes are manifested in the familiar multiform ways. This repressed envy of the male sex is shown particularly well in the dreams and symptoms of some psychoneurotic patients.

Abraham first disposes of the rationalized explanations given for the renunciations of the female sex often made by these women such as deprivation of business and social

privileges, disenfranchisement, etc. He then declares that psychoanalysis of patients has repeatedly discovered that at certain stages of their development little girls feel at a disadvantage as regards the male sex by their poverty in external genitals—and, in short, are jealous of the penis. Although primarily without a feeling of inferiority in regard to her own body, because she believes that all children are formed just as she is, when the little girl learns to the contrary she fabricated the theory that she too was once as they, but that for reasons variously ascribed her penis has been taken away, leaving a wound, (the vulva), a theory which is later reinforced by a flow of blood from that same wound.

This discovery acts as an injury to the girl's amour propre; it stimulates a sense of inferiority with a compensatory feeling of hostility, an impulse to rob. Abraham links up with this the data of Freud's "Das Tabu der Virginität," the theory of the right of the first night, and the custom among some savages of defloration by a priest or friend. This feeling of envy with a desire for revenge is manifested in a number of ways, such as a marked interest on the part of some women in crippled men, in bald headed men and the like.

Unadjusted repression of these so-called castration wishes later lead to such symptoms as the dread of marriage, marital discord, and frigidity and again the well known phobia of many women for wounds, knives and cutting.

It is compensated for symbolically in many women by the well known assumption of masculine habits and manners; in a less sublimated form, because of the infantile theory that feces are a part of the body which is being lost, it is replaced by an interest in the feces as a substitute (leading to the development of anal eroticism, overt and sublimated). Another substitute for the penis—a well known psychoanalytic manifestation—is the belief of the child that the penis emerges from the genital cleft and which, in the theorization of many children, it, and the new born child, are brought forth by some sort of cutting.

Abraham illustrates his findings liberally and introduces various connotations not mentioned in this abstract, concluding with a paragraph worthy of quotation, partly because of its intrinsic worth and partly because it takes up a matter very generally misunderstood by the antagonists of psychoanalysis—

"To everyone of us who are practicing psycho-analysis the question occurs at times

whether the trifling number of individuals to whom we can give assistance justifies the great expenditure of time, labor and patience. The answer to this question is contained in the above exposition: If we succeed in freeing such a person from the defects of her psychosexuality, i. e., from the burdens of her castration complex, then we obviate the neuroses of children to a great extent, and thus help the coming generation. (Because women whose ideas and feelings are influenced by the castration complex to an important degree in matters, whether consciously or unconsciously, transplant the effects into their children). Our psychoanalytic activity is a quiet and little recognized work, and for this reason all the more attacked, but its effect on and beyond the individual seems to us an aim worthy of much labor."

(Menninger.)

—————B—————

A Simple Method for Demonstrating Motor Paralysis of the Lower Extremities.

For the purpose of recording the downward pressure made by the passive extremity, a sign first described by Hoover, Tom Bentley Throckmorton, Des Moines, Iowa (Journal A. M. A., April 14, 1923), used the sphygmomanometer apparatus with very gratifying results. The patient is required to lie flat on his back with the lower extremities extended. The arm band of the sphygmomanometer apparatus is placed under one heel, and, after the recording dial has been attached, air is introduced. The air pressure in the arm band is increased until the upper and lower surfaces of the cuff are separated to such an extent that downward pressure with the heel will not bring the two surfaces into apposition, thus assuring that the heel will always be resting on an air cushion. The amount of air necessary to bring this about was usually found to be sufficient for adults when the recording hand of the instrument reached 30 mm. With the heel resting on the air cushion, the leg entirely free from contact with the bed, and the starting point on the dial observed, the patient is instructed to raise the opposite leg, while keeping the extremity extended, to an angle of about 45 degrees with the body. The maximum excursion of the recording hand, particularly the point at which the downward pressure of the heel sustains the hand, is then noted. After the reading has been taken on one side, the air cushion is placed beneath the opposite heel. In normal persons, i. e., when no paralysis of the extremities exists, the readings on the two sides are, for all practical purposes, one and the same. In case of motor paresis of a lower extremity, in which the

paralysis was only partial, and of some duration, it was found that when the nonparalytic leg was elevated, the maximum reading was sustained, whereas elevation of the organically palsied extremity produced a maximum reading not only lower than the one obtained when the normal leg was elevated, but a reading that was not well sustained, tending to decrease as the muscles of the paralytic extremity failed to maintain the elevation. When the paralysis was recent and progressive, attempts to elevate the palsied extremity produced a far greater contralateral pressure on the nonaffected side than occurred when the normal extremity was elevated.

—————B—————

Opening the Peritoneum in Operations for Empyema.

In a study made by Howard L. Beye, Iowa City (Journal A. M. A., April 21, 1923), of a series of cases of empyema in which drainage had been performed at varying periods after the onset of the condition, and in which the cavities did not heal, it was determined that one of the commonest causes for failure to obtain a cure was that drainage had not been instituted at a dependent portion of the cavity. In such cases a residuum of purulent exudate remains below level of drainage opening, no matter what position the patient assumes. An empyema cavity thus inadequately drained tends to be maintained not only because of the accumulated pus, but also because of the continuation of the infection of the pleura. The resultant cavity is therefore usually much larger than can be accounted for merely by the amount of exudate which collects at the bottom of the cavity below the level of the drainage opening. Acutely ill patients, in whom drainage has been performed through an opening improperly placed, may eventually recover, but the period of invalidism is greatly prolonged. The establishment of dependent drainage of an empyema which has been improperly drained at a previous operation will be followed by a cure in the majority of cases. This is true even though the condition has been existent over a long period of time. Even an associated bronchial fistula will usually heal spontaneously as the empyema cavity drains, and becomes obliterated. In very large chronic cavities it is often best to drain at two dependent points, so that there will be no stagnation of purulent exudate no matter what position the patient may assume. When the empyema rests on the diaphragm, there is a certain danger of opening the peritoneal cavity either through or below the diaphragm. Localization of the pus by the aspirating needle at the beginning of the operation and

again after resecting a rib before incising into the empyema will obviate the danger of opening the peritoneum.

—R—

Skin Preparation in Hypodermic Needle Punctures.

C. E. Tennant, Denver (Journal A. M. A., April 14, 1923), describes the use of alcohol for disinfection of the skin in preparation for the use of the hypodermic needle. First, alcohol for commercial use, and even for hospital administration, is not what it was before the Volstead Act went into effect. Second, alcohol rubbed over the skin causes no discoloration; hence there is no target or landmark apparent to which the point of the needle may be directed in order to come well within the so-called sterilized bacteria-fixed area. Under such conditions, no doubt, it frequently happens that the hypodermic needle is plunged into an altogether unprepared spot. Consequently, although the technique of hypodermic syringe and solution sterilization may be ever so carefully executed, the unexpected happens, since the needle, passing through an unclean area, may carry with it whatever is lodged on the skin. The use of iodine as the agent best adapted to skin preparation has been universally accepted, and why alcohol is permitted, or recognized as equally effective when applied to hypodermoclysis, or the administration of drugs by hypodermic needle, Tennant says, is beyond comprehension, especially since the commercial forms of alcohol are generally used. Tennant reports a case of gas bacillus infection at the site of hypodermic puncture.

—R—

Science or Superstition?

In commenting on the recent death in Egypt of Lord Carnarvon, who financed the excavation of Pharaoh Tutankhamen's tomb in the Valley of the Kings, Doctor Edsel A. Ruddiman, chief chemist of John T. Milliken & Company, Saint Louis, former dean of the College of Pharmacy of Vanderbilt University, member of the Revision Committee of the United States Pharmacopoeia, and an authority on toxicology, expressed the opinion that his death might have been caused by inorganic or organic poisons deposited in the mausoleum 3,300 years ago.

While not subscribing to the theory that his death may have been the result of ancient precautions that should outlast thirty-three centuries and strike down the despoiler of the tomb of the ruler of the "Upper and Lower Lands," Doctor Ruddiman states that certain poisons, with which the ancient Egyptians may very well have been acquainted, probably

would retain their potency through the ages.

"With the death of Lord Carnarvon, the old superstition that he who disturbs the body of a Pharaoh, must in turn suffer some dire calamity, is again brought into prominence," he said. "The opinion of any person is as good as that of another in deciding this question.

"It has been suggested that some poison may have been scattered or deposited in the tomb of King Tutankhamen at the time of burial. From a chemical point of view such a possibility is interesting. The question at once arises—Could any poison survive a period of 5000 years and retain its activity? So far as inorganic poisons (derived from mineral matter) are concerned the question is easily answered. There are some which would remain unchanged. Compounds of such elements as arsenic, mercury and antimony have remained in the earth ever since that part of the earth was formed and they are active when refined. Perhaps some of the rarer metals are more poisonous. That the Egyptians had a very high degree of knowledge of metals is shown by the amount and variety of articles taken from the tomb. It is not impossible that they had even a greater knowledge of certain toxic salts derived from metals than we have.

"While we cannot say that organic poisons (from living matter) will or will not retain their poisonous properties unchanged for centuries, we have good reason to think that some of them might, if kept dry. Heat and moisture are two factors which decompose organic matter, but with moisture absent the stability is insured for a very long time. As an example, strychnine, which is obtained from the nux vomica seed, is one of the most stable poisons. Under conditions most favorable for decomposition it remained unchanged.

"We know, from reports, that Tutankhamen's tomb was very dry, and probably of a moderate temperature. We read that the oils in the funeral urns about the sarcophagus became viscous when taken out of the tomb. This leads to the belief that climatic conditions in the tomb were conducive to the preservation of organic matter.

"The Egyptians may have known of organic poisons of which we know absolutely nothing. What they know about organic chemistry is all conjecture. The history of poisons, however, far antedates the Christian era.

"While there is a possibility that the poison which entered Lord Carnarvon's system through the mosquito bite came from the tomb, the probability is that it did not. There is no record that any of the workmen suffered

from a similar trouble, although they probably were in greater contact with the dust and very likely had greater abrasions of the skin through which the poison might enter.

"The chief potency of mystic incantation and curses lies in the mental complex of the individual upon whom they are exercised."

—R—

Encephalitis Following Interference With Dead Teeth.

Robert Burns, Jr., San Francisco (Journal A. M. A., June 2, 1923), reports two cases of encephalitis developing after the extraction of a dead tooth. Special attention is directed in Case 2 to the entire absence of contact with an active case and the great improbability of contact with a carrier. The patient had not suffered from a prior attack of influenza and had not come in contact with any one so suffering.

—R—

The Blood With Deep Roentgen-Ray Therapy.

Examinations made by Edwin F. Hirsch and A. J. Peterson, Chicago (Journal A. M. A., May 26, 1923), demonstrated no striking or consistent alteration in the urea nitrogen, the total nonprotein nitrogen, the uric acid, the creatinin or the sugar concentration in the blood of patients treated with roentgen rays. There was, however, a disturbance of the acid-base equilibrium, manifested immediately after treatment by an increase of the hydrogen-ion concentration and sometimes by a slight lowering of the alkali reserve. In the blood, after twenty-four hours, these relationships are reversed, and there is a diminished hydrogen-ion concentration and an increased alkali reserve.

—R—

Intra-Uterine Transmission of Anthrax.

Joseph C. Regan, Abraham Litvak and Catherine Regan, New York (Journal A. M. A., June 16, 1923), report the case of a healthy, well-developed, pregnant woman with an anthrax lesion of the face. On admission to hospital, the patient did not seem prostrated or dangerously ill, yet her blood stream already contained large numbers of anthrax bacilli, as the blood culture taken at the time subsequently showed. The transmission of anthrax to the fetus was proved in this case both by the cultures taken, at the necropsy of the mother, from the fetal heart blood and liver, and by the finding of typical large, gram-positive bacilli in the microscopic sections of the fetal liver tissue. It is logical to believe, the authors say, that the transmission occurred through the placenta.

Diminished Glycolysis in the Blood in Diabetes.

William Thalhimer and Margaret C. Perry, Milwaukee (Journal A. M. A., June 2, 1923), do not believe that blood glycolysis measures the total amount of glucose utilized in the body, but we do suggest, tentatively, that it represents an index of the ability of the tissues to utilize glucose. This index may have somewhat the same significance and value, as regards carbohydrate metabolism, as have quantitative blood sugar determinations.

—R—

The Diagnosis of Sarcoma in Bone.

A case of rapidly growing and fatal medullary sarcoma of the humerus in a child, aged 7, is reported by Eugene H. Eising, New York (Journal A. M. A., May 19, 1923). In July, 1921, the child was struck on the shoulder while playing. She did not complain of any pain at that time, but a swelling was noticed at the upper third of the humerus. It was fusiform in outline, occupying the entire circumference of the humerus in its upper third, but not including the epiphysis. Operation was refused. Intensive radium therapy was resorted to, but the tumor continued to grow rapidly, and chest metastases manifested themselves in a short time. Death ensued about three months after the child sustained the injury.

—R—

A Possible Mistake in the Diagnosis of Gonococcal Infection of the Kidney.

The case reported by Charles H. de T. Shivers, Atlantic City, N. J. (Journal A. M. A., May 12, 1923), shows how easily micrococcus catarrhalis infection of the kidney could have been mistaken for gonorrhea had not a careful bacteriologic study been made. The morphology of the gonococcus and of micrococcus catarrhalis are practically identical. No one can safely differentiate them by morphology and staining.

—R—

Abortive Type of Tuberculous Hip-Joint Disease.

A. L. Neilson, Harlan, Iowa (Journal A. M. A., May 19, 1923), reports two cases, very similar, and clinically definite tuberculosis of the hip-joint, both of which cleared up with practically no treatment and in a comparatively short time. In favor of a diagnosis of tuberculosis were: (1) etiologic factor; (2) typical history and symptomatology; (3) typical objective signs; (4) positive Pirquet tests (in children the age of these, the positive skin test should have considerable weight), (5) lack of any other diagnosis except acute synovitis, the occurrence of which is unusual, and for which there is no etiology.

Against the diagnosis of tuberculous joint disease were: (1) the lack of bacteriologic proof of the organism, and (2) the course and outcome, for the recovery of a so-called tuberculous hip-joint in a few weeks is a strong argument against the diagnosis. Though not definitely proved, it would seem that there is an abortive type of hip-joint tuberculosis.

R

Chronic Splenomegalic Hemolytic Jaundice.

Jacob Meyer and Isadore Pilot, Chicago (Journal A. M. A., June 16, 1923), isolated a streptococcus similar to *Streptococcus viridans* from the spleen of a child, aged 7 years, who presented the clinical picture of chronic splenomegalic hemolytic jaundice. On removal of the spleen, recovery took place, and the subsequent development of an acute influenza was not accompanied by any evidence of hemolytic activity.

R

The Intestinal Lesion in Anaphylaxis.

Histologic study of segments of intestines at various stages of anaphylactic shock was made by W. H. Manwaring, A. C. Beattie and R. W. McBride, Stanford University, Calif. (Journal A. M. A., May 19, 1923). The characteristic intestinal lesion in canine anaphylaxis was found to be a stasis and marked edema of the intestinal mucosa, followed by epithelial desquamation, hemorrhage and superficial necrosis during the later stages of the shock. This lesion is said to be due to a prolonged contraction of the intestinal musculature, increasing the intra-intestinal pressure sufficiently completely to stop the circulation in the mucosa during the period of low arterial blood pressure.

R

Cardiac Disorders Accompanying Exophthalmic Goiter.

The current theories of the cause of the cardiac disorders that accompany exophthalmic goiter are considered by Ernst P. Boas, New York (Journal A. M. A., June 9, 1923), to be inadequate. Evidence is presented that two mechanical factors may play a part in overloading the heart in exophthalmic goiter, thus making it more susceptible to secondary noxious influences. 1. The tremendous dilatation of the arteries and veins of the thyroid short-circuit the blood flowing to the neck and increase the load on the heart in the same manner as do arteriovenous aneurysms. 2. The heightened oxygen consumption causes an increased minute volume flow of the blood, which may be from 25 to 60 per cent greater than normal. The increased work thus thrown on the heart is the chief cause for cardiac dilatation, hypertrophy and insufficiency in exophthalmic goiter.

Acute Intestinal Obstruction.

Hugh McKenna, Chicago (Journal A. M. A., June 9, 1923), insists that enterostomy for acute obstruction should be performed in a precise and definite way. The anatomic location should be such that it will permit picking up the upper jejunum with a minimum amount of trauma. The incision through the abdominal wall should be small, as this arrangement prepares the way for the early formation of a diverticulum of the intestine, which anatomic condition early permits at least a part of the intestinal current to pass in the normal way, after enterostomy has relieved the acute obstruction. This plan is of paramount importance, especially in badly weakened patients in whom, if the entire intestinal content passes out of the enterostomy opening for more than a week, absorption is so interfered with that emaciation swiftly ensues. Moreover, when the enterostomy is high, the pancreatic secretion pouring out on the skin becomes very distressing because of its digestive action. It is therefore of much importance to divert as much of the intestinal content to its normal course as early as possible. This is particularly true in those patients who will not stand early secondary operations for the enterostomy closure. Whatever type of enterostomy is performed, the procedure having a minimum of intra-abdominal manipulation, with the maximum security against peritoneal contamination, will be considered the operation of choice, irrespective of whether or not a secondary operation will be necessary to close the intestinal fistula.

R

Thyroidism Complicated by Heart Failure.

Burton E. Hamilton, Boston (Journal A. M. A., June 16, 1923), reports a small group of thyroid cases in which the patients were completely disabled by heart failure of the congestive type. These patients are rather old, and have auricular fibrillation and severe degrees of thyroidism which has persisted a long time in spite of attempts at palliative treatment. As a rule, they have been considered by their medical advisers as unfit for operative treatment. Twenty-two such patients have been operated on in Dr. Lahey's clinic in the period extending from more than two years ago to five weeks ago. One patient died suddenly. The others are alive, and show relief of disability in varying but satisfactory degrees.

R

Jaundice in Myocardial Insufficiency.

Quantitative studies were made by Arthur M. Fishberg, New York (Journal A. M. A., May 26, 1923), on the bilirubin content of the

blood of patients suffering from cardiac insufficiency and the correlation of bilirubinemia, with other evidences of disturbed hepatic function and extrahepatic bilirubin production. Hyperbilirubinemia was found to be very common in myocardia insufficiency, particularly in cases of long standing. The slight yellow or yellowish-brown discoloration of the skin so frequently observed in cardiac insufficiency is a true jaundice, being due to the hyperbilirubinemia. In cardiac insufficiency, there is an increased destruction of stagnated red cells by the reticulo-endothelial cells of the various organs, particularly the lung, liver and spleen. This is compensated for by increased activity of the bone marrow. Anhepatic bilirubin formation from the hemoglobin of the red cells thus destroyed results in the hyperbilirubinemia of cardiac decompensation, though insufficient excretion of bile pigment by the injured liver cells plays an accessory part.

—R—

Catharsis in the Treatment of "Colds."

The almost universal use by the profession and laity of laxatives and cathartics in the treatment of acute upper respiratory tract infections (so-called "colds") suggested an investigation to Hugh MacDonald, Evanston, Ill. (Journal A. M. A., May 12, 1923), to determine how large a role this therapy played in shortening the duration of these conditions. A mild epidemic of acute respiratory infections furnished an opportunity to investigate this problem among the employees of a large industrial organization in Chicago. In most of the cases under observation there was a more or less generalized infection of the whole upper respiratory tract before the termination of the illness. Information on fifty-one practically consecutive cases occurring during the height of the epidemic was obtained. Thirty-seven persons had used cathartics, mainly at the onset of the illness. The average duration of unemployment of this group was nine days. Fourteen had used no cathartics. Their average duration of unemployment was 7.71 days—14.3 per cent less than the former group. While it is not claimed that the omission of catharsis will hasten the subsidence of definite symptoms, it is suggested that the omission of cathartics in the absence of constipation in the treatment of "colds" does not apparently delay recovery.

—R—

A Case of Chronic Appendicitis Simulating Angina Pectoris.

The important points in the case cited by Anthony Bassler, New York (Journal A. M. A., May 19, 1923), were these: A man, aged 50, suddenly awakened with an intense pain

in the lower abdomen, followed by a temperature of 104 F., nausea and vomiting. The illness lasted four days, and was treated by rest in bed and colon irrigations, the latter being continued for two months. About a week after the onset of this illness, he began to have a burning sensation in the chest. This was independent of meals or other noticeable cause and gradually intensified and deepened into distinct pain. The attacks of burning and pain would come on suddenly, continue for varying lengths of time, and stop quickly. Various measures of treatment were employed without benefit. These attacks were always brought on by exertion, at first not so marked, but in a few weeks so severe that he was unable to walk from his home to his office, a distance of about 700 yards, without severe attacks. Roentgen-ray examination of the abdomen displayed a moderate ptosis and an abnormal appendix, which was tender on pressure at the time of the physical and three fluoroscopic examinations. The appendix was removed. The diagnosis was confirmed, and the patient made a smooth recovery. After he was able to be up, some slight attacks of burning sensations and slight pain in the chest occurred on exertion, these lasting (gradually getting less) for about three months. A year has now passed since the last of these, and the man has been uninterruptedly well.

—R—

Aneurysm of the Thoracic Aorta as a Cause of Acute Abdominal Pain.

William J. Mallory, Washington, D. C. (Journal A. M. A., May 12, 1923), relates the case of a man, aged 61, who, after eating a full dinner, was seized suddenly with pain, which he described as "feeling as if some one had stuck a knife in his heart." The pain was constant and severe, and did not radiate. There was no nausea or vomiting. The abdomen was hard, rigid and tender, the last condition being more marked in the epigastrium. The blood pressure was 220 systolic, 110 diastolic; the pulse was still under 90. There was a leukocytosis, the cells numbering 29,000. The provisional diagnosis was some acute condition in the upper abdomen. A ruptured gallbladder or mesenteric thrombosis was considered as a possibility. The abdomen was explored but nothing abnormal was found. The patient was returned from the operating room in a condition of extreme shock. He did not regain consciousness for several hours. Death occurred suddenly six days later. When the chest was opened, a large dissecting aneurysm was found occupying the distal end of the aorta, with extensive hemorrhagic extravasations, apparently occurring at different

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End Results of Suprapubic Prostatectomy

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The advance which has been made in the successful surgical management of patients with enlargement of the prostate has been due not only to the improvement of operative procedures, but very largely to the preoperative and postoperative treatment. No longer are incomplete operations performed, necessitating the use of the catheter or subsequent operations for obstruction at the neck of the bladder. Cases in which large amounts of residual urine are present, with resultant renal insufficiency, are now given preliminary treatment before being subjected to removal of the prostate. Postoperative hemorrhage, sepsis, and uremia are so well controlled that they give little cause for anxiety.

The cystoscope and its allied methods of examination have caused the diagnosis of the surgical lesions of the urinary tract to approach an exact science; and thereby, the associated pathology of enlargement of the prostate has become so well known that standardization to a considerable degree has been possible in the management of enlargement of the prostate gland.

The high mortality rate of the past placed the operation of prostatectomy in the group of formidable operations, and has been responsible for many men leading a catheter life, which, with the inevitable advent of ascending infection, has little to recommend it at the present time with the greatly diminished mortality rate, unless there are definite contraindications for prostatectomy.

GENERAL CONSIDERATIONS REGARDING ADENOMATOUS HYPERTROPHY

The prostate is primarily a sex gland and is apparently dependent on testicular function, inasmuch as atrophy of the gland occurs after bilateral castration. Its glandular structure makes it heir to malignancy; its close proximity to the urethra, ejaculatory ducts and vesicles subjects it to infection; but what the underlying etiologic factor or factors in the production of adenomatous hypertrophy may be has not been determined.

Malignancy of the prostate, chiefly carcinoma, rarely sarcoma or lymphosarcoma, com-

prises about 15 per cent of the obstructing lesions of the prostate. Benign hypertrophy is the lesion of chief surgical importance, and the one to which this discussion is confined. Ninety per cent of surgical benign enlargements of the prostate are due to adenomatous hypertrophy; the remaining 10 per cent to so-called prostatitis, which is probably the result of an old infection. The best understanding of adenomatous hypertrophy is probably gained by correlating the embryology of the gland and the pathology of the adenomatous hypertrophy.

Lowsley's work shows that the gland develops from five distinct sets of tubules, or evaginations, from the urethra, each set corresponding to one of the five lobes. This confirms the generally accepted belief that each lobe develops individually, and opposes the opinion of certain investigators that the middle lobe develops from the lateral lobes. These evaginations are first seen at the twelfth week of fetal life with the anterior lobe reaching its maximal development at the twentieth week, and disappearing at birth. The lateral lobes contain by far the largest number of tubules, about four times as many as comprise the median lobe, and ten times as many as are found in the posterior lobe.

Wilson and McGrath showed several years ago that the initial activity in benign hypertrophy occurred in the epithelium of the tubules. Because the change occurs in the secreting tubules, it seems logical to assume that hypertrophy occurs most often in those lobes of the gland containing the largest number of tubules; and it seems reasonable to explain on this basis the frequent incidence of adenomatous hypertrophy in the lateral and median lobes, and its rarity in the posterior and anterior lobes. In any event, the lateral and median lobes are the lobes to which benign adenomatous hypertrophy is confined.

FACTORS INFLUENCING END RESULTS

The factors which influence immediate and end results following prostatectomy are (1) the proper selection of patients; (2) the associated pathology; (3) the preliminary treatment, and (4) the type of surgical procedure.

1. *Selection of patients.* When does benign enlargement of the prostate gland require surgical intervention? Perhaps most, if not all, men past fifty years of age have

some enlargement of the prostate gland. In reviewing the histories of a large number of consecutive men past fifty years of age who have come to the clinic for complaints other than genito-urinary, 58 per cent had urinary symptoms attributable to the prostate gland. Obviously surgical intervention is not advisable in all cases.

The subjective symptoms of prostatic pathology are frequency, difficulty, pain, hematuria, and incomplete emptying of the bladder. Assuming that it has been determined that the symptoms can be attributed to the prostate, how are they to be interpreted? The first three, frequency, difficulty, and pain, do not necessarily indicate a surgical condition of the prostate. They are usually present in a case which is considered surgical, but should they alone form the basis of indication for operation, a guarded prognosis as to the ultimate result is advisable. These symptoms alone, in the absence of obstruction or residual urine, are usually manifestations of infection, and are frequently seen in the so-called prostatitis, or inflammatory type of gland, which, without obstruction or residual urine, is usually not relieved by prostatectomy. Hematuria, excluding the higher urinary tract as its source, as a rule indicates an intravesical gland with varices in the overlying mucous membrane. Inability to empty the bladder, and persisting residual urine are the outstanding and important indications for prostatectomy. However, the absence of residual urine does not constitute a contraindication to operation if the gland is enlarged and there are other subjective symptoms. Given residual urine of any amount as a result of prostatic obstruction, and the surgical indications are clear; given frequency, difficulty, pain, but slight enlargement of the gland, without residual urine the advisability of surgery may be questionable.

2. *Associated pathology.* The end results of prostatectomy are directly dependent not only on the primary pathology of the gland, but on the secondary or associated pathology. The triangular ligament prevents expansion of the gland downward. Hence, when enlargement of the gland occurs, expansion is either laterally or mesially encroaching on the lumen of the urethra, or intravesically through the internal sphincter. Intra-urethral or intravesical enlargement of the gland is usually obstructive, resulting in retention or incomplete emptying of the bladder, but is not necessarily so, for at times huge non-obstructing glands are encountered. However, in 91 per cent of our patients there was residual urine, varying in amounts from 30 c. c. to the entire capacity of the bladder. With

incomplete emptying of the bladder, infection occurs, the bladder wall hypertrophies, and trabeculations, cellulæ, diverticula, and stones develop. Vesical calculi were associated with benign hypertrophy in 12 per cent, and large surgical diverticula in 5 per cent of our cases.

With the advent of ascending infection, pyelonephritis and renal insufficiency supervene, the degree being dependent on the amount and duration of residual urine. The damage to one or both kidneys in cases of long duration and severe infection at times is to the degree of pyonephrosis. It is not unreasonable to expect that, in the presence of so much irreparable damage to the kidneys, the end results will not compare with those obtained in cases in which the obstruction is removed before the kidneys are seriously involved.

Pyelonephritis is the usual cause of continued frequency after prostatectomy, and when it is marked, the maximal amount of benefit from prostatectomy is, as a rule, not manifested in less than one year from the time of operation. The functional result is determined by the patient in terms of frequency and bladder irritability, and these are usually dependent on the degree of pyelonephritis. Similarly, the result of prostatectomy in a case in which there is also a large diverticulum of the bladder is dependent on the excision of the diverticulum.

Obviously, the best functional results are obtained if the obstructing prostate is removed before large amounts of residual urine develop, and before pyelonephritis and renal insufficiency supervene.

3. *Treatment preliminary to prostatectomy.* In discussing end results, it must be remembered that no phase of the management of the prostate is more important in avoiding an untimely fatal end result following prostatectomy than the preliminary management. Postoperative uremia in years past has been the chief cause of the exceedingly high mortality rate following prostatectomy, which has been estimated to be as high as 20 per cent in certain hospitals of this country. Many patients with prostatic obstruction have had chronic retention for a long period of time with marked renal insufficiency, and have been in a state of chronic uremia. To remove the obstruction surgically without preliminary preparation has precipitated acute uremia with resultant high mortality. Recognition of the fact that all patients with prostatic obstruction and residual urine are in uremic states, or potentially so, and the treatment of the uremia before operation, have been most important in reducing the mortality rate to between 3 and 4 per cent today. Drainage

of the bladder by urethral catheter or suprapubic tube for a variable length of time, depending on the amount of renal insufficiency and general condition of the patient, has greatly diminished the risk following prostatectomy, so that the operation is no longer considered formidable, but is classed with those of small risk. The renal functional test and general condition of the patient determine the time at which operation may be performed with safety.

4. *Type of surgical procedure.* The choice of the one or two-stage operation is largely a personal one, and apparently does not affect the mortality rate nor end result. It is not possible to employ the one-stage operation routinely, nor is it necessary to use the two-stage in all cases. The one-stage operation is preferable, in that it may be conducted accurately under the eye. We have employed it in 76 per cent of our cases. Preliminary bladder drainage by urethral or suprapubic catheter avoids the untimely fatal end result by reducing the infection of the urinary tract and improving the renal function and general condition of the patient.

The first suprapubic prostatectomy was performed by Fuller in 1894, who was closely followed by Freyer. The evolution of the operation was slow; at first only portions of the obstructing gland were removed in the course of a drainage operation, or the removal of vesical calculi. As a result these operations afforded incomplete relief. However, as the operation has developed, the end results have continued to improve.

So far as the functional results are concerned, there probably is very little difference between the suprapubic and perineal operations. The suprapubic operation possesses the advantages of attacking directly that portion of the gland which is involved in the adenomatous hypertrophy, namely the lateral and median lobes; it avoids injury to the external sphincter which, after prostatectomy for an intravesical gland, whether removed suprapubically or by the perineal route, is the controlling sphincter; it affords opportunity for accurate visual control of bleeding, and for dealing with associated bladder lesions. Stricture formation, even though the entire prostatic urethra has been removed, is exceedingly rare.

The merit of any type of treatment for disease, be it surgical or otherwise, is best judged by the results obtained.

MAYO CLINIC SERIES

This review is based on 1360 suprapubic prostatectomies for benign prostatic hypertrophy performed in the Mayo Clinic during the ten years between January 1, 1913 and

January 1, 1923. Seventy-six per cent of the prostatectomies were done at one stage, and in 24 per cent the prostatectomy was preceded by a suprapubic drainage, or excision of diverticula.

Age of patients. Ninety-five per cent of the patients operated on were over fifty years of age; 51.5 per cent were between fifty-six and sixty-five years; 74.4 per cent between fifty-six and seventy; 83 per cent between fifty-one and seventy; 92 per cent between fifty-one and seventy-five; and 5 per cent were under fifty-one years. The oldest patient was eighty-three, the youngest twenty-six, and the average age was sixty-five years.

Mortality. There were sixty-eight deaths in the series of 1360 operations, an average mortality rate of 5 per cent, which has decreased from 7 per cent in the earlier years to 2.5 per cent in the later years. Uremia was the most common cause of death, being given as the cause in 60 per cent. However, as a higher percentage of patients with prostatic hypertrophy have received preliminary treatment, the incidence of death from uremia has markedly decreased. General sepsis, myocarditis, pneumonia, and pulmonary embolism were occasional causes of death following prostatectomy.

Ultimate results. In an effort to determine what the ultimate results of prostatectomy have been, information was obtained by re-examination of many of the patients, and by questionnaires to all, in which questions were directed toward the manifestations on which functional results are based.

Considerable difficulty is experienced in the interpretation of the symptoms of frequency, preoperatively and postoperatively. The frequency of the overdistended bladder preoperatively should not be mistaken for incontinence, nor should the frequency at times persisting postoperatively as a result of pyelonephritis and generalized infection of the urinary tract present before the operation, be accepted as incontinence. Nocturnal and diurnal frequency is a constant symptom in prostatic hypertrophy. Forty-six and seven-tenths per cent of our patients had nocturnal urination of more than five times, and in many cases as often as every half hour; 88 per cent had diurnal urination at intervals ranging from every fifteen minutes to every hour.

The effect of prostatectomy on the symptom of frequency was a return to normal of nocturnal urination in 76 per cent of the patients, the vast majority of whom retain the urine throughout the night, and a decrease in the diurnal frequency; 74 per cent void less than six times during the day. The symptom of preoperative difficulty of urination was

relieved by prostatectomy in 95 per cent of the patients.

There is a physiologic waning of sexual power during the prostatic age, but there is no reason to believe that the prostatic enlargement is a causative factor. Only 66.8 per cent of our patients had normal sexual power at the time of prostatectomy; the remainder had diminished or poor power. Even though the prostate gland is a sex gland, it does not seem that prostatectomy is an important factor in the reduction of sexual power. Twenty-eight per cent of the patients on whom prostatectomy was performed state that the sexual power has been diminished since operation, but the physiologic waning of power in the prostatic age is likely to be attributed by the patients to any outstanding event in their lives at that time, and should it be prostatectomy, the operation is credited with the change. In contrast to those in whom the power was stated to have diminished postoperatively, 10.8 per cent of the patients who had had reduced power before operation found that it had returned to normal, postoperatively. Seventy-one per cent suffered no impairment or change of power, and if we include those in whom power was increased, it may be said that on the average 80 per cent retain sexual power after prostatectomy.

As regards the functional results of prostatectomy, 54.12 per cent are entirely relieved of all symptoms and are well; 25.28 per cent are markedly improved; 13.27 per cent are slightly improved; 4.49 per cent report no change; and 2.82 per cent state that their condition is worse. In other words, 92.67 per cent are better for having had the operation. The patients who are but slightly improved, those who experienced no change, and those who are worse had had obstruction at the bladder neck with retention and infection for a long period of time before operation. Irreparable damage to the kidneys had occurred, and re-examination has revealed a persistent and progressive pyelonephritis in many of these who are not improved, or are worse since operation.

CONCLUSION

The results following prostatectomy bear a direct relation to the length of time that retention, and infection of the urinary tract have been present, and the best functional results are obtained in cases in which prostatectomy is done before pyelonephritis develops.

—R—

"The definition of an expert is a man who knows nothing else." When this defines a specialist he is a dangerous citizen in any community.

High Blood Pressure in Pregnancy and Some of the Etiological Factors

M. W. HALL, M.D., Wichita

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

My reason for selecting this particular subject (High Blood Pressure in Pregnancy and Some of the Etiological Factors) is because I believe that in most cases of pre-eclamptic toxemia, high blood pressure is one of the first and most important symptoms manifested in this condition. McPherson says, in speaking of symptoms in pregnancy toxemia known as eclampsia, that the most significant warning of an impending toxemia in the pregnant woman is found in the blood pressure. In an otherwise normal patient, a sudden and permanent rise in the blood pressure is to be looked on with alarm and is never of slight importance.

Just a review of arterial hypertension at this point would probably not be amiss. High blood pressure is a sign of some underlying disorder or toxemia and is probably, to some extent, a compensatory process. It is unwise to treat it singly by vasodilators and cardiac depressants. Vasodilators are probably useful in the crisis of high blood pressure, but none the less the essential indication is to deal with the condition that may have causal influence, namely, overeating, worry and toxemia. The object, at first, should not be so much to reduce the blood pressure as to prevent any further rise.

It is important to get a true perspective of the value of blood pressure estimations. There is a certain amount of personal variations in different individuals, and the actual height of the blood pressure must be regarded as but one of several manifestations that have to be taken into consideration and not as the only one of importance. A slight difference noted at different times must not be regarded as important. Not only must transient variations in the patient such as are due to excitement be taken into consideration, but also the personal equation of the examiner. Such as his sense of hearing when using the auscultatory method. It is thus clear that undue importance may be attached to an isolated examination of the blood pressure, especially if that is taken by a stranger, in imposing and anxious circumstances.

Of all the etiological factors that have been variously ascribed to toxemia in pregnancy, the following I think are the most striking:

First—From the standpoint of the efficiency of the men.

Second—The positiveness of each writer.

Third—The absolute differences of opinion; and when I have finished I believe you

will agree with me that it is quite possible that all are correct in a large measure.

Turek²: In carrying out an animal experiment using the specific toxine known as cytost, or as he terms it, homologous cytost, as it is specific to the species, in his conclusions, in speaking of eclamptic toxemia, he says, "It is recognized that the cause of these pathological conditions is a toxemia due to the absorption of the toxins by the mother and foetus and reabsorbed into the blood stream, and is in the case of other circulating poisons, the solution of the problem in the production of other substances in the blood stream, which will render these toxins harmless. This is a theory underlying the activity of cytost and it is a pragmatic one, for it works." He seems to be quite positive that the specific toxine of pregnancy has been identified, which is the tissue toxine.

Willis³ and Williams in the *Lancet* in their article on corpus luteum in pregnancy say: "That the experimental observations are so clear cut as to leave no room for doubt that the corpus luteum does contain a very toxic substance, which in moderately large doses causes death in animals with convulsions, but in smaller doses causes severe illness with degenerative changes in the kidneys and liver. The lesions produced are identical with those found in patients dying from eclampsia and there is abundant evidence from the etiology of this disease to support such a conclusion."

There are those that adhere very strongly to the placental theory. Personally, I do not believe it is quite possible, for this reason, toxemia of pregnancy must arise from some body that is in the maternal tissue as early as the sixteenth week (for this is as early as toxemic eclampsia develops) and throughout the pregnancy and the early puerperium, (when post partum eclampsia occurs) it follows that this body is not in the fetus because in molar pregnancy there is no fetus nor is it likely to be in the placenta. It might be stated here that the most severe type of toxemia, you will find in a molar pregnancy. This is the argument favoring the corpus luteum theory as it is present from the time of fertilization and proceeds throughout pregnancy until about fourteen days post partum. Yet if this be true, how do we account for the cases of eclampsia of early pregnancy, and after the cessation of eclamptic seizures they continue to normal termination?

According to P. Rissmann⁴ of Osnabruck, the so-called pregnancy toxicosis, with the symptom of extremely high blood pressure, severe nephritis, a high degree of edema and headache should be regarded as a metabolic

disturbance and treated accordingly by means of adequate diet.

Some authors have laid great stress upon diet, especially protein. The clinical report of Strauss⁵ and Kelman seems to disprove this theory to some extent. They have laid more stress upon the effect of emotion on blood pressure, which is more easily demonstrated than the effect of protein food. They were unable to convince themselves that patients were harmed by protein food. Excess of any kind of food seemed decidedly more injurious than a moderate amount of proteins in a well balanced diet. Flatulence and digestive disturbances often result from substitution of carbohydrates and fats and these disturbances together with weight increase were found more harmful than proteins.

The most likely etiological factor would in all probability be the one put forward by Houghton⁶, although not a new one; in part, at least, it sounds quite possible. He says that patients having high arterial tension almost universally present a history of acute infectious diseases, especially scarlet fever, and clinical examination will develop the presence of chronic infections as sequella. Apparently the clinical progress of the disorder may be summarized as follows: Those cells of the kidney concerned in the excretion of sodium chloride are the first to yield to these infectious processes and the "factor of safety" is gradually lowered as the irritation continues. Often times the irritation is reinforced in its action by gross dietary errors and high sodium chloride intake (and pregnancy). The expression in the urine is the persistent trace of albumen, a sign of irritation found at the time the examination is made. He goes on to state and explains, in high blood pressure, "that the first cells to yield are those which have to do with the excretion of sodium chloride and with a constant or excessive intake the percentage in the plasma will rise, likewise there would be a voluntary retention of water to maintain the osmotic tension. The arterial tree gradually becomes distended in the later stages, the water retention becomes a condition *per se*, and is not a compensatory phenomenon. The arterial tension rises gradually to meet these changed conditions."

McGarrison⁷ concludes that bacterial toxins are absorbed into the blood stream and carried to the thyroid, which acts injuriously and causes insufficient hormone production. My observation is that those patients that show increased function and size of the thyroid do not suffer from toxemia of pregnancy.

I wish to refer you to the group of thirty cases reported by Rowley⁸ of the Mayo Clinics where toxemia was relieved following

treatment of focal infection. Also La Vake⁹ mentions infected teeth and tonsils as a possible cause of nephritis in pregnancy, of eclamptic toxemia and eclampsia. He reviews thirteen cases in which infection was the prominent factor. All his patients either had pre-eclamptic toxemia or eclampsia.

So much for the different theories which are all different, but producing practically the same pathology. To further emphasize that no specific toxin is necessary and that any poison might produce necessary pathology resulting in pre-eclamptic toxemia. I wish to report a small group of twenty cases, all of which showed an increase in blood pressure, in each one a source of focal infection could be found, a previous history of drug poisoning or gross metabolic error in diet, and when these conditions were corrected the patient's general condition showed improvement and where the case was treated early in pregnancy the blood pressure was reduced and the patients would go to term without any further interference. There were two cases of drug poisoning, nine cases of abscessed teeth, four of which were further complicated by la-grippe or very bad tonsils, three were due to acute cold, one due to bacillus coli infection of kidney complicated by twin pregnancy, five due to errors in diet. Some instances, as in the case of drug poisoning, where apparently the damage had been done to the kidney and liver and with the added burden of pregnancy would show signs of toxemia in the later stages.

Cases listed under errors in diet and constipation gave histories nothing short of amazing; the amount and quality of food they would consume; their rapid gain in weight, —one gaining 70 pounds in four months— and some of them not having bowel movements for four or five days. These cases were found mainly in the city clinics.

The records of the following cases will help to illustrate the foregoing.

Case Four—Miss T. P. primipara, age 18, admitted Salvation Army Hospital, September 1, 1921, pregnant, 4½ months, general condition fair; heart, mitral regurgitation, compensating; blood pressure 70-118; urinalysis negative; gave history of having taken several drugs to produce abortion, of which quinine, castor oil, turpentine, and arsenic were used. This occurred sometime before being admitted. In January following, the patient began to have a slight rise in blood pressure, urine negative. In February the urine showed albumen. Patient started in labor February 10, membrane ruptured 10:30 p. m., blood pressure at this time, 110-180, complained of headache, dizziness, bright

lights before the eyes. Patient showed symptoms of convulsions. Ether anesthesia started, patient had one convulsion before anesthesia complete. Forceps applied and rapid delivery, patient recovered without any further convulsions.

Mrs. W. H. B., age 33, para 4, family history negative, has had influenza, severe attacks of tonsilitis, had tonsils removed some time ago, first seen June 10, general physical examination negative except teeth in bad condition, patient referred to the dentist. Patient gave history of having complained of pain in stomach, backache, and headache, appetite very poor, had some nausea and vomiting; blood pressure 80-148; urine negative. June 12, 1922, blood pressure 90-146, four teeth were found abscessed; slight trace of albumen in urine. Teeth were extracted at intervals, the last one on August 11. August 25, 1922, blood pressure 80-128, urine negative. On September 20 patient contracted very bad cold, although it did not show any rise in blood pressure or albumen, patient miscarried premature, started September 21, labor very short, lasted only two hours, delivered four and one-half pound male child which lived only four hours. Patient left hospital in twelve days. Urine negative, blood pressure 80-120.

In taking the blood pressure, the nervous element was excluded in this series. No cases were reported that did not show other signs of toxemia, such as dizziness, headache, gastric disturbances, or nephritis. A few of the cases had blood chemistry, not enough, however, to warrant a conclusion justifying a report. Cases presenting dental infections were treated by extractions, no abortions resulted, and apparently did not disturb the patient in any way.

I believe that the removal of teeth with periapical infections and extensive caries can be safely done during pregnancy. Surgical removal in such cases is preferable in the presence of definite roentgenological evidence of granuloma. Careful roentgen examinations, interpretations, and co-operation with the exodontist are highly essential. Surgical extractions in these cases should be done according to a definite plan with a careful consideration of the number of teeth to be removed at one operation. Repeated examination of temperature and urine should be made and general symptoms of reaction manifested by the patient should be carefully observed. Pyorrhea should not be overlooked and cavities in vital teeth should be filled with cement rather than the more permanent materials. In the presence of pathological conditions associated with pregnancy the same

precautions must be taken as are observed in similar conditions existing independently of pregnancy.

I do not recommend the removal of tonsils in the latter part of pregnancy. I have seen a few cases in the earlier months which appeared not to be disturbed, but on the face of it, it does not look like good treatment. Patients will, as a rule, recover much better from a major operation than from tonsilectomy. All cases were put on a well balanced, restricted diet, low in caloric value, not necessarily a protein free diet, but meat free and elimination. I think where possible a moderate amount of out door exercises is desirable, as it aids metabolism.

CONCLUSIONS

1. That the most significant warning of an impending toxemia in the pregnant woman is found in the blood pressure.

2. That the etiological factor is not necessarily specific, but, any toxine bacterial or metabolic or drug poison may produce the necessary pathology.

3. That we can by the careful elimination of foci of infection and the intelligent supervision of diet, prevent the condition from becoming more severe or from occurring at all.

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Some Fundamentals of Basal Metabolism

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No subject in medicine is today exciting more interest than basal metabolism. This interest is due largely to the rapid development of apparatus for the quantitative measurement of the metabolic rate from the respiratory exchange and the demonstration that knowledge so gained may be applied clinically in the study of patients. The simplification of technic has, however, proceeded very much more rapidly than the appreciation of the underlying principles of basal metabolism. While we are primarily interested in the clin-

ical value of these tests, it is extremely important that we understand the fundamentals of calorimetry. These are essentially principles of gaseous metabolism.

To each cell of the body there is continually being brought by the blood stream, protein, fat, carbohydrate and oxygen. As a result of the vital activity of the cell the food substances are oxidized with the formation of carbon dioxide, water and other products. This chemical change which materials are constantly undergoing under the influence of living cells, we designate metabolism. From this use of material physical results such as work, heat and electricity arise. Such physical results we call energy. All energy of whatever form produced in the animal body is the result of the oxidation. According to the law of the conservation of energy, no energy is ever lost but tends to revert to its most elemental form, which is heat. Hence heat is being continually produced in the human body as the end result of all other forms of energy, such as muscular work, internal glandular activity, or electricity, whether the individual is active or at rest.

Since heat is the ultimate end product of metabolism, we can best express the physical results produced by chemical changes in the cells in terms of heat units. We recognize the fact that muscular work requires a greater utilization of foodstuffs with the elimination of increased heat, the muscular work causing an increased oxidation. However, when the body is at complete rest, both from muscular work and digestive activity, there is still a constant heat production. Vital activity is ever present in the cells causing chemical changes in materials. This level of metabolism which measures the change being wrought as the result of internal glandular and muscular activity incidental to the maintenance of life, we term basal metabolism. The heat production then when the body is at complete rest, and in the post absorptive state, is the basal metabolism.

The fact that oxidation is the fundamental process of energy production and of life, was pointed out by Lavoisier¹ in 1780, soon after the discovery of oxygen by Priestly. He summed up his ideas by stating "Life is one chemical process." He supposed that the oxygen was the cause of a decomposition of fluids which took place in the lungs. He noted that the quantity of oxygen consumed depended on (1) food intake, (2) work, and (3) temperature.

It is interesting to speculate why there is a constant heat production even in the starving and resting animal. The oxygen is not the cause of the decomposition of the protein

fat, and carbohydrate, though necessary for it. The oxygen absorption depends upon what metabolizes in the cell, so the amount of oxygen used is determined by the level of metabolism. Voit² many years ago answered this question in these words: "The unknown causes of metabolism are found in the cells of the organism. The mass of these cells and their power to decompose materials determines the metabolism. The metabolism continues in the cells until the power to metabolize is exhausted. All kinds of influences may act upon the cells to modify their ability to metabolize, some increasing it, others decreasing it. In speaking of the power of cells to metabolize, I have understood thereby the sum of the unknown causes of the metabolic ability of the cells." From this we see that the question is fundamentally one of why there is life.

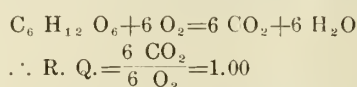
Another very interesting fact about the activity of the organism which we shall express in heat units, is that the activity or heat production in a fasting, post-absorptive state is proportionate to the body surface. This we know as the surface area law of Rubner. From a practical standpoint, the fact that the heat production of normal individuals varies little from a standard, expressed in calories per square meter, is of utmost importance, since there is no other unit in which it does not vary. When the surface area law was first pointed out by Rubner in 1883, it seemed an explanation for the heat production. Rubner thinking that because there was greater heat loss there was greater heat production. It was quickly shown, however, that this heat production is independent of the heat loss, since two guinea pigs of different sizes had the same production of heat per square meter, even when surrounded by a temperature of 30° C, thus eliminating the influence of cooling. We now realize the level of basal metabolism is not caused by the influence of cooling on the body. We simply have to accept the fact without knowing why there is a relatively constant activity of the body cells in the basal state, and an activity proportionate to the surface area.

We have been speaking thus far in terms of heat, work and electricity of the energy which is derived from the chemical changes which are continually taking place in the body cells, and have noted that according to the law of conservation of energy, all energy reverts to its lowest form which is heat. We can also approach the subject in the reverse order, and from a study of the energy production, draw conclusions regarding the metabolism. Since the end result of all energy is heat, we may easiest study the energy output by estimating the heat production. When a gram

of carbohydrate or protein is burnt, whether it be in the animal body or in the bomb calorimeter 4.1 calories of heat are produced. Similarly, a gram of fat produces 9.3 calories. If we place an individual in a calorimeter in which we can estimate the heat production and know the type of food which is being burnt, we can at once calculate how much food is utilized, or in other words show how much work the cells have done. This method of determination of heat production is called direct calorimetry.

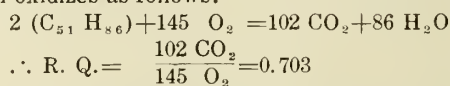
The study of heat production by the method of direct calorimetry requires expensive and intricate apparatus, which does not lend itself to clinical use. However, the subject may be studied in a still simpler way. The fundamental process is one of oxidation with the formation of carbon dioxide, water and nitrogenous bodies. The oxygen is taken in solely by way of the lungs, and the carbon dioxide is excreted by the same route. The nitrogenous products are excreted almost entirely by the urine. Hence we can determine the level of vital activity by the estimation of the oxygen consumption or by the carbon dioxide and nitrogen excretion. Here again, it is necessary to know whether protein, fat or carbohydrate is being burnt.

The relationship between the carbon dioxide formed and the oxygen absorbed we term the respiratory quotient. (R. Q.). When carbohydrate is burnt the following equation expresses the changes taking place:



Fat may be expressed as tripalmitin— $\text{C}_{51}\text{H}_{98}\text{O}_6$
 subtracting the intra-molecular water H_{12}O_6
 we have left— $\text{C}_{51}\text{H}_{86}$

which oxidizes as follows:



The respiratory quotient of protein is 0.80. From this variation in respiratory quotient on oxidation of the different foodstuffs, we see that the respiratory quotient indicates the type of foodstuffs being burned. For each gram of nitrogen excreted in the urine, 5.91 liters of oxygen are consumed, and 4.75 liters of carbon dioxide are formed. If we determine the nitrogen excreted and subtract from the total oxygen and carbon dioxide that utilized for the protein metabolism, we can calculate the non-protein respiratory quotient. It is this that we are concerned with in the study of basal metabolism. Since the protein metabolism in the fasting and resting individual is negligible, the total and the

non-protein respiratory quotients vary little, and we may disregard the protein. The following table (Table I) illustrates well the heat value of the respiratory gases when the various substances are oxidized.

Lantz has calculated a table (Table II) from which we can determine directly the caloric value of a liter of oxygen from different respiratory quotients. In the fasting individual the respiratory quotient averages 0.82. The caloric value of 1 liter of oxygen at this level is 4.825, the figure which we use in calculating the basal metabolism.

From the facts that the oxygen consumption is a measure of the oxidation in the cells, and that the simultaneous estimation of oxygen and carbon dioxide enables us to determine the type of food burned, we can realize the great significance of the gaseous metabolism. From a study of the respiratory exchange, we have determined the heat production, which in turn is a sum of the activities of the cells and is an index of the speed with which the body cells are working. The method of determining the heat production from the oxygen absorption and carbon dioxide excretion is called indirect calorimetry.

In estimating the heat production clinically, the patient is allowed to breathe into a closed drum containing oxygen. The oxygen consumption per hour is thus determined. The volume of oxygen in liters utilized is reduced to 0°C . and 760 mm. pressure and multiplied by the factor 4.825. This factor represents the number of calories of heat produced when one liter of oxygen is consumed with the patient fasting and at complete rest. The total heat production for one hour thus calculated, divided by the surface area in square meters, is the basal metabolism. It has only to be compared with the DuBois standard for different ages and sexes to determine whether it is normal or abnormal.

Pettenkofer and Voit, in 1866, were the first to estimate the heat production from a study of the respiratory exchange. It had already been discovered that the protein metabolism could be estimated from the amount of nitrogen in the urine. The discovery of such a method prompted Voit to suggest to Pettenkofer, that an apparatus be made for measuring the carbon excretion including that of the respiration. The result was the respiration calorimeter first used by them, and the proof that the estimation of heat production gives identical results with direct and indirect calorimeters. Voit in his necrology of Pettenkofer³ writes "Imagine our sensations as the picture of the remarkable processes of metabolism unrolled under our eyes, and as a mass of new facts became known to us." Then

he enumerates such facts as were learned from a study of the respiratory exchange. Their work was based on the formula for determining the surface area suggested by Meeh in 1879. This is incorrect. The rapid development of clinical calorimetry is due in a large measure to the simple and accurate method of determining surface area, devised by DuBois and to the determination by him of normal standards, with which results obtained may be compared and the normality of any person's metabolism be judged.

The heat production varies with sex and age. It is especially high at puberty and is higher in men than women. Such variations we look upon as normal and due to some quality inherent in the protoplasm of youth and sex. We are most interested in the other factors which alter the level of metabolism. It is of course evident that to produce the mechanical energy expended in muscular work, requires an increased consumption of food materials and an increased oxygen consumption. There is a consequent increase in heat production due to the transformation of chemical energy into kinetic energy.

The intake of food when the body is at absolute rest also causes an increase in heat elimination. After the ingestion of protein, the increase is due to the direct stimulation of the body cells by the intermediate products of metabolism, causing an increase in the rate of oxidation of foodstuffs. This chemical stimulus acts on protoplasm directly independent of nerve supply. This action we term the specific dynamic action of protein. The chemical stimuli are the amino acids. It is of interest to note that the ingestion of 660 grams of meat will cause a maximal rise in the basal metabolism of 46 per cent. Carbohydrates and fat also cause an increased heat production. This rise is explained by Lusk⁴ as due to a mechanism within the cell which allows certain affinities for fat and carbohydrate to be satisfied in the presence of a plethora of fat and carbohydrate.

Certain psychic influences through the action of the nervous system may also cause increased activity of cells. The factors just enumerated however, we eliminate in the study of basal metabolism, which by definition is the heat production of an individual at both mental and physical rest, and in a post-absorptive state. There are certain conditions, on the other hand, which influence the level of oxidation in the basal state. Any condition in which there is a production of abnormal substances, which may act as chemical stimuli to the cells will cause an increase in heat production. Here we may mention anemia, leukemia, diabetes with marked pro-

tein destruction, nephritis, phosphorus poisoning and some instances of focal infection.

According to the law of Van't Hoff a rise of 10° C in the temperature of a solution increases the velocity of chemical changes taking place therein 2 to 3 times. The oxidation in the cells is a chemical reaction. An increase in temperature will increase the rate of oxidation and so increase the heat production. In fever, for each degree of elevation of temperature, there is an increase of 7.2 per cent in the basal metabolism. This is a most marked demonstration of the need of forced feeding in fevers, and shows also that fever is due to accelerated metabolism and not to interference with heat elimination. On the other hand, in any condition where there is prolonged under-nutrition, the metabolism is at a lower level and its tissues accommodate themselves to a lower level of oxidation.

The influence of the internal secretions on the activity of the cells is one of the most important we have to consider. The two glands that are most concerned, are the hypophysis and the thyroid. Diminished activity of the hypophysis causes a lower rate of metabolism, and an increased activity the reverse. The chemical substance actually concerned in the change is unknown.

The secretion of the thyroid is the factor influencing metabolism concerning which we have the most definite knowledge. If the thyroid gland is completely removed heat production continues, but at a level 30 to 40 per cent below the normal. This shows that the thyroid secretion has an extremely important place in the chemical transformation within the cell but is not necessary for life. Thyroxin, the active principle of the thyroid is a substance which has been defined by Plummer as "an agent which hastens the rate of formation of a quantum of energy available for transformation on the excitation of the cell." Thyroxin is continually being formed and used up. Plummer's definition of thyroxin applies equally well to those substances concerned in the elevation of heat production following the ingestion of protein, or to those substances occurring in such diseases as leukemia and nephritis.

Practically it is found that an increase in the basal metabolism in the absence of fever is due in 95 per cent of the cases to an increase in thyroxin formation in the thyroid gland. The symptoms of pure hyperthyroidism are all dependent and due to increased metabolic activity of the mass of active protoplasm.

We should keep in mind that the basal metabolic determination is a functional test the results indicating the speed at which the

body cells are working or the level of the oxidative process at the time the test is done. The symptoms which we associate with an increase or decrease in the level of metabolism, do not necessarily parallel the processes in the cells, since the results of the changed activity of the cells may last long after the stimulus to changed activity is gone. The symptoms also may be the result of injury to a certain vital organ such as heart muscle or nervous system.

We must use and interpret the test with the same discrimination we would a Wassermann test or a phenolsulphonephthalein test for renal function keeping in mind the fundamental nature of the test and the factors that influence it. We must also distinguish clearly between metabolic changes in the cell and the symptoms which may arise from abnormal changes therefrom.

In summary we may say so long as there is life, the animal body is producing energy. This energy can not arise from nothing, nor can it vanish into nothing. It can originate only from the oxidation of foodstuffs in the cells as the result of the cell's vital activity. The energy is dissipated as heat, so the total energy production can be best measured from the heat production.

If we know the food intake we can calculate the heat production. Similarly the heat production can be determined from the oxygen consumption and carbon dioxide formation.

The non-protein respiratory quotient represents the relative percentage of fat and carbohydrate being burnt. The urinary nitrogen shows the amount of protein utilized.

The energy and heat production are proportional to the surface area.

The basal metabolism represents the quantity of energy in terms of heat produced in an individual at rest and in a post absorptive state, per square meter of surface area per hour.

The transformation in the cells of chemical energy into other forms of energy may be retarded and maintained at a lower level through prolonged under nutrition or a decrease in certain internal secretions. This transformation may be increased by muscular work, fever, or certain circulating chemical stimuli such as the intermediate products of metabolism or the thyroxin of the thyroid gland.

The heat production in the fasting and resting state, the basal metabolism, best shows the speed at which the mass of body cells are working. It is an objective measurement of the rate of metabolism.

The principal factor influencing the basal metabolism is the thyroxin of the thyroid gland, and if other factors which may influ-

ence basal metabolism can be eliminated, it is a quantitative measurement of the rate of formation and level of thyroxin content of the blood.

All of these fundamental processes of metabolism follow certain fixed physical laws such as the law of conservation of energy, the surface area law of Rubner, and the temperature law of Van't Hoff.

TABLE I.

Table showing the heat value of the respiratory cases when the various substances are oxidized.

1 gram Substance	O ₂ Absorbed	CO ₂ Formed	R.Q.	Calories heat produced	Calories of heat produced on oxidation of	
	C.C.	C.C.			1 li. O ₂	1 li. CO ₂
PROTEIN	966.3	773.9	0.801	4.316	4.465	5.529
FAT	2019.3	1427.3	0.707	9.461	4.666	6.629
STARCH	828.8	828.8	1.000	4.182	5.047	5.047

TABLE II.

The significance of the non-protein respiratory quotient as regards the heat value of 1 LI. of oxygen, and the relative quantities in calories of carbohydrate and fat consumed.

R. Q.	Calories for Carbohydrates		Fat
	1 li. O ₂	Per Cent	
0.70	4.686	0	100.00
0.71	4.690	1.4	98.6
0.72	4.703	4.8	95.2
0.73	4.714	8.2	91.8
0.74	4.727	11.6	88.4
0.75	4.739	15.0	85.0
0.76	4.752	18.4	81.6
0.77	4.764	21.8	78.2
0.78	4.776	25.2	74.8
0.79	4.789	28.6	71.2
0.80	4.811	32.0	68.0
0.81	4.813	35.4	64.6
0.82	4.825	38.8	61.2
0.83	4.838	42.2	57.8
0.84	4.850	45.6	54.4
0.85	4.863	49.0	51.0
0.86	4.85	52.4	47.6
0.87	4.887	55.8	44.2
0.88	4.900	59.2	40.8
0.89	4.912	62.6	37.4
0.90	4.924	66.0	34.0
0.91	4.936	69.4	30.6
0.92	4.948	72.8	27.2
0.93	4.960	76.2	23.8
0.94	4.973	79.6	20.0
0.95	4.985	83.0	17.0
0.96	4.997	86.4	13.6
0.97	5.010	89.8	10.2
0.98	5.022	93.2	6.8
0.99	5.034	96.4	3.4
1.00	5.047	100.00	0.0

B

The claim is made that one five hundredth part of a drop of blood can be detected on clothing by the spectroscope. The spectroscope and the radio give promise that the mind can be seen at work and the thoughts of the thinker heard where the skull is normal.

Aids in Diagnosis

By J. T. SCOTT, M.D., St. John, Kan.

Read before the Stafford County Medical Society, May 9, 1923.

Dorland defines diagnosis as "the art of distinguishing one disease from another, the determination of the nature of a case of disease." The Standard Dictionary defines it as "the art or act of discriminating between diseases and distinguishing them by their characteristic signs and symptoms; hence, a summary of symptoms with the conclusion arrived at therefrom." It will be observed that the latter portion of the definition given by the Standard, "a summary of symptoms with the conclusion arrived at therefrom," is the one most of us have adopted and use generally in making diagnoses.

When a patient seeks the services of a physician the first and most important question presented is that of diagnosis for the evident reason that no sane and satisfactory method of treatment can be recommended in the absence of a diagnostic conclusion and success in treatment will be in exact proportion to the degree of diagnostic acumen, assuming, of course, possession of the necessary knowledge and skill in the use of proper means for relief and restoration of health.

Martinet says, in the preface to his recent work, *Clinical Diagnosis and Symptoms*, "correct and complete diagnosis is a sine qua non to rational and effective treatment, the latter being the chief aim of medicine." This quotation is not made because it contains something new or novel but for the better reason that it is of unusual importance and therefore worthy of frequent re-statement. As progressive physicians we readily assume the obligation to render, at all times, to the best of our ability, a correct and complete diagnosis in every case. Are we ready to declare the honest fulfillment of that obligation? If so well and good. If not why not? We are all well aware that a complete, critical, conscientious examination of any patient is never a matter of child's play, but on the contrary demands work, time and thought. The necessity for all this may not be apparent to the patient but it is nevertheless most important and necessary to the physician if he would possess a commending conscience and feel that he deserves the confidence of his patient. The fact that to a goodly number of patients it is not apparent may be urged as the reason for many of the careless, slipshod methods of examination, with their like methods of treatment and advice. We shall all profit by being frequently reminded that there is no royal, easy road to the successful diagnosis and treatment of disease. We may acquire a

degree of success even though careless, indifferent and slothful but it can never be a selfcommendatory success. And after all that is what counts.

We are all aware of the importance of early and accurate diagnosis for the especial reason that the earlier disease processes whether functional or organic are recognized and properly treated the more hopeful the prognosis. It is not difficult to diagnose a well defined chronic organic lesion neither is it especially necessary to do so hastily in as much as the changes which have already taken place are such as to preclude the possibility of a cure and to leave available only such methods of treatment as look to alleviation and conservation. For such cases and the meager help to be afforded them through treatment a physician may be held blameless unless his connection with them can be traced back to their incipency. All of which brings the realization of what at first thought seems paradoxical—that the usually considered simple, unimportant cases met in everyday practice are in reality those of most importance. How are we to know the many cases that have sought our professional aid and advice and that we have examined casually and considered unimportant that were in reality early manifestations of what later proved to be serious maladies? We can only know by learning of the fatal progress in such cases. When we accustom ourselves to look upon our life work in all seriousness we shall then only realize the great responsibility assumed. We owe to every patient we accept and treat the best thought and care we are capable of giving, which capability should encompass the best and latest methods of diagnosis and treatment.

The difficulties we all encounter are in the main those of diagnosis, hence the title of this paper. Our difficulties in treatment are simplified and dispelled in proportion to our accuracy of diagnosis. We are always able to institute correct treatment and make reasonably definite prognosis after definite diagnosis. Without the former the latter becomes a series of guesses, unsatisfactory alike to the patient and physician. The most difficult task then and the one of most importance is met at the very beginning of every case, that of diagnosis.

No other part of the field of medicine, I dare say, has made such advancement and received such intensive cultivation as the field of diagnosis. It is truly remarkable not to say marvelous when we contemplate the means and methods we now possess and employ as diagnostic aids. In fact they have

grown both in number and importance until they have acquired the dignity of a specialty. I do not by this refer only to those laboratory methods requiring expensive equipment and unusual technical skill such as blood chemistry, sero-diagnoses, Wassermann, etc., but in addition to those, the many diagnostic procedures which are usually recommended for use by the general practitioner. Mention of a few will give some conception of their extent and character, such for instance as urinalysis, chemical and microscopical, blood smears and counts, including differential counts, sputum, stomach and bowel contents, germ staining and differentiation, metabolism rate, radiography, fluoroscopy, ophthalmoscopy, laryngoscopy, otoscopy, etc. These latter are not all by any means of the methods recommended as diagnostic aids to the general practitioner which he is supposed to make use of and should he fail to do so is liable at any time to be adversely criticised by another physician to whom his patient may at any time go. Admitting that in perhaps a majority of cases most of these methods are necessary in arriving at an accurate diagnosis and that they should be used, or some of them, in all cases, are we made to wonder that such is not the case? Rather would it not be more wonderful if such were the case?

This presents to us what I designate as a problem, the solution of which, rests with the physicians of different localities. Such for instance as county units. I have given considerable thought to this problem and perhaps the suggestion came to me as a result of my experience in doing for my confreres some microscopical, chemical and x-ray diagnostic work.

It is easy to say, as most of our recognized authorities and writers do, that all this should be done by the general practitioner, but the fact remains that they are not doing it, neither in the cities nor in the rural districts. The problem is solved for the urban physician through public and private laboratories, but what of the small town and rural physician, who feels the same need and can enlist aid only by appeal to state or private laboratories usually at considerable distance and necessarily time consuming as well as inconvenient? To these he must resort or do it himself if it is to be done. As to doing it himself, I am thoroughly convinced that the average physician, unless he takes special training in the technique of even the so-called simple laboratory tests will find it not only difficult but distasteful, which means it will not be done. The use of the microscope is simple and its manipulation can be acquired

perhaps by any one who is patient and persistent, but it is also true that comparatively few physicians are gifted naturally with the ability to carry out successfully the delicate technique and manipulations necessary to dependable results. If this is true, and one can easily convince himself by attempting to do it, what is to be said of those more difficult to master, such for instance as the ophthalmoscope, otoscope, laryngeal mirror, transillumination, blood counts, etc. But there are at least three other very important reasons why these diagnostic methods have not been, and will not be practiced, by the man in general work.

First, they are time consuming and owing to the very nature of his work he will many times be forced to forego them.

Second, the manipulations are so delicate that adeptness can only be acquired and retained by constant practice.

Third, the cost of necessary equipment even for ordinary tests is a very considerable investment which is not justified if used but semi-occasionally.

Here let us digress for a moment to consider the approximate expense necessary for ordinary equipment. A reliable microscope and appurtenances, \$200.00, ophthalmoscope, \$30.00 to \$50.00, blood-counting apparatus and mechanical stage, \$50.00, x-ray machine from \$300.00 to as many thousands of dollars or more, fluoro-copie from \$600.00 up, illuminating cabinets from \$25.00 up, dark-room equipment from \$25.00 up, accessories to as much as you care to invest.

These are but a few of the items in the equipment now available for 20th century diagnostic work. Do we wonder then that doctors generally do not equip themselves for such work? It is not practical nor, to my mind, desirable and yet we all feel the need of it, almost the necessity for it. But beyond this and of greatest importance is the skill required in the practical application of these methods as well as experience in making interpretations and readings that are reliable. The fact that doctors in general are not equipped as above suggested is the best evidence that it is impractical and will not become common. And yet it is a rapidly oncoming necessity.

The days of the desk and pre-crispion pac office equipment and the pulse, tongue and temperature examination are fast passing. What our fathers had and did is not sufficient for us. Though we need not be the first to adopt each new thing may we not be the last to abandon methods that are outworn and obsolete.

This brings me to the presentation of suggestions looking to the solution of the problem before mentioned, that of making available diagnostic aids that we so much need and see no practical way of possessing. This is the age of specialism. The phenomenal advances in both medicine and surgery within the life time of each of us has created specialism. The field of general medicine has become too large to be effectually encompassed by one man. Even with the necessary mental endowment an average life time is entirely too short. To obviate this difficulty specialism came and invaded surgery and medicine appropriating department after department until today there is scarce an organ or tissue of the human body that is without its specialist.

And this is not mentioned in a critical sense but in the realization that it is in the main a natural result if not a necessity. This, however, does not mean the passing of the general practitioner. He is now as much a fixture as at any time in the history of medicine and doubtless will remain so. His field is as large today as it has ever been and is constantly enlarging. As the specialist appeared in answer to the demand for better service so the family doctor is hearing the constant appeal for greater efficiency as related to both public and private care. There are many specialists but they represent, to put it jocularly, the tail of the dog, the body still is and shall ever remain, the general practitioner or family doctor. But in order to remain in the van of the profession where he belongs he must persistently go forward appropriating every worthy suggestion and applying the new methods that are demonstrably better. His greatest need today is no doubt improved skill in diagnosis but this need is probably best supplied through the assistance of the diagnostic specialist rather than through the attempt to personally qualify for efficient work in this department. It is like the other departments of special practice, too large and time-consuming to be absorbed by the general practitioner.

We have specialists in diagnosis, eminent in their chosen field, so have we laboratories both public and private to aid us but they are both comparatively inaccessible as well as expensive and time consuming hence not satisfactory from a practical standpoint. Group practice, with which we are all somewhat acquainted, is but an effort to supply what we all feel to need, and works. I presume, admirably under favorable conditions, but unfortunately can never do so in rural and small town communities such as ours.

There is a way, to my mind, of solving this

problem at least to a degree. Take for instance a county as the unit. There will usually be found one physician at least, and that should be sufficient, who is held in respect and confidence by his brother practitioners and who has the natural qualifications and the acquired ability to take up the work of a diagnostic specialist, especially as it pertains to laboratory, x-ray, ophthalmic, eye, ear, nose and throat technique, those fields which require special skill and special equipment. By being kept reasonably busy in this work he would be released from most of his outside work and no doubt glad to discontinue it as soon as the referred work justified his so doing. And in addition he would acquire from constant practice more skill both in technique and interpretation. Every doctor, by such an arrangement, would gain by having convenient diagnostic aid without additional expense to himself in as much as the diagnostic fees would be a matter between the specialist and patient. This would not only furnish convenient aid but would do away with the foolish custom of duplicate expensive equipment. In other words it resolves itself into a proposition of the physicians of a county or community banding themselves together and designating one of the number to do this work and to whom they can bring or refer their cases for necessary diagnostic work.

It is to be presumed of course that the physician so designated has the qualifications and enthusiasm necessary to its successful accomplishment as well as the desire to increase by every available means his skill in the use of all these diagnostic methods. To me it offers a practical means of furnishing reliable, convenient aid with the least expenditure of time and money. There is an objection that will no doubt occur to some who, by nature or for reasons, are not amiably disposed toward their fellow practitioners and in consequence refuse to join in any arrangement that involves surrender of their personal dislikes. Such things are truly cause for regret but they seem to be a part of human nature itself and are met in all avenues of life. From past experience we are led to conclude that in as much as they can not be cured they must be endured. Let us not, however, in enduring permit the blocking of the wheels of progress. If kind solicitation and patient effort fail to enlist such in cooperative movement for the benefit of all then there seems but one thing to do, let them withdraw and fight their battles alone. The curse of medicine ever has been and is now jealousy and its hand maiden covetousness. We seem incapa-

ble of recognizing that ages old truth that a house divided against itself can not stand. We are prone to take the critical rather than the charitable attitude in dealing with and estimating our professional brothers. The results are only too evident. We are assailed on every hand by cults and isms, the populace and politics, the church and state, our motives, no matter how altruistic, are criticised and misconstrued, our professed interest in public welfare is condemned as an interest in public graft and yet we are members of a profession that is universally recognized as the noblest given to man. These things are distressing to the thoughtful physician but they should not cause despair. The good book tells us "whom the Lord loveth He chasteneth" and the chastening is sure to continue until our profession learns the lesson of the divided house.

In other words, when we doctors cease condemning each other and begin loving each other, the populace will replace criticism by confidence and loyalty. Our profession, in spite of its shortcomings, has made wonderful advancement in recent decades but they will appear insignificant when compared to those yet to be accomplished by a united, loyal, cooperating profession. Let our slogan be—accept truth from whatsoever source, ignore faults as though they were not.

—B—

BELL MEMORIAL HOSPITAL CLINICS

Ortheopaedic Clinic of C. B. Francisco

Bell Hospital, Rosedale, Kansas

TUBERCULOSIS SYNOVITIS AND ARTHRITIS

The case I wish to present to you today is C. J., hospital No. 12707; female; age 18 years. She was admitted December 18, 1922. Diagnosis, tuberculosis of right knee with sinuses. The following history was obtained. Three years ago knee began swelling following a slight injury and became painful, there was considerable enlargement of the joint which disappeared in about three weeks but patient was obliged to use crutches for about 4 months then she got about fairly well for a time when the knee again swelled but she did not require crutches. One year after the onset the knee was operated on, pus being evacuated and the area above the internal condyle curetted. Following this operation she was able to walk with considerable comfort for about five months when the knee again became painful and troublesome, gradually getting worse so that for past six weeks following a fall has used crutches continuously and the knee has discharged since it was first operated upon. Has lost some weight

but does not have night sweats or night cries, appetite good, had influenza in 1918. Family history negative for T. B.

Physical Examination—Fairly well developed and nourished girl, weight 110 lbs. Examination practically negative except for right knee which is in the attitude of 135° flexion with only about 5° motion. There is 2 inches atrophy of thigh and calf while the knee is 2 inches larger than the left one. There



Before operation showing pathological fracture with callus and synovial changes.

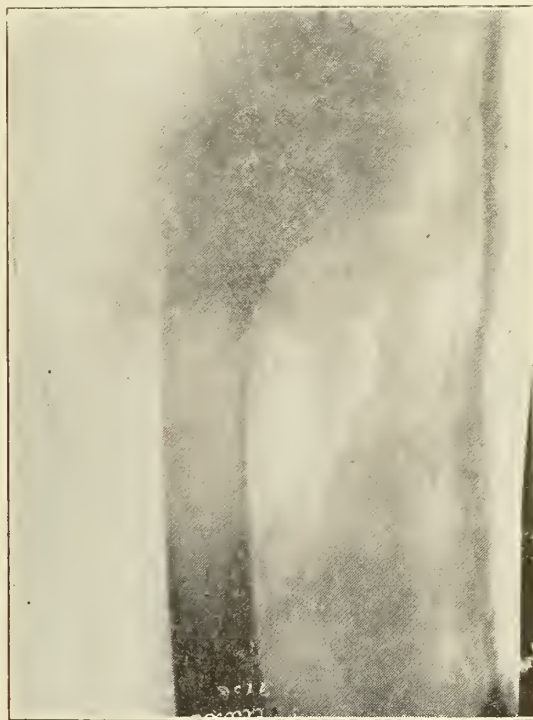
is an operative scar extending upward 8 inches from over the internal condyle with a discharging sinus in the lower third. The joint is quite painful on attempting weight-bearing or motion. Wassermann negative. Hemoglobin, 80. Blood otherwise negative. X-ray skiagraph shows a pathological fracture of the lower end of the femur, oblique with some outward bowing and some callous. The bone has been the seat of an old pathological process, condyles and cartilages of joint space show irregularity and erosions, bony cortex thin. There is a knock-knee of moderate degree.

She was operated on January 2, 1923, in the following manner: A semilunar incision was made around knee joint, skin and fascia reflected. Tendons cut through, patella excised and all necrotic tissue in knee joint removed. Following removal of this tissue a small portion of bone was removed from dis-

tal end of femur and proximal end of tibia. These freshened ends were then put in apposition, tendons and fascia double stitched and skin closed in usual manner. No drainage. Entire leg was placed in a plaster cast, with a window being cut in the lateral side because of a sinus at that point. Patient left operating room in good condition.

The following is the report of the tissue sent to the laboratory. The section shows some typical tubercular granulation tissue with here and there a few scattered typical anatomical tubercles, some of which show caseation and several typical multi-nucleated giant cells. Diagnosis: T. B. Synovitis and Arthritis.

The patient has been fairly comfortable in a cast and the drainage has been slight but



Three weeks after operation with a cast in place showing joint surfaces excised.

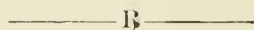
continuous. Her first cast was worn for six weeks and then another one was applied which she is still wearing. We expect to make a splint of this cast and allow her to go home soon as the dressings are easily managed.

I would like to emphasize the following points about this case: First, that she had symptoms that apparently cleared up and then recurred; this is rather typical of tubercular joints. Second, she was operated on for osteomyelitis and as a result got a secondary infection and the bone was weakened and the pathological fracture occurred as a result of

her fall; this being an unusual complication. However, you can see the callous formation and we are sure that she will get a union. Third point is, that all tubercular knee joints in individuals, 13 years old or older, should be excised as soon as the diagnosis is made.

This child will have to wear her cast or some kind of a support for several months possibly a year but we will expect her sinuses to close and firm union result between the femur and tibia so that she will become symptom free and have only the handicap of a stiff knee. In other words, be cured of her tuberculosis of the knee.

Note. Under date of June 30th, 1923, the following letter was received from this patient: My knee is all healed up now and I am wearing a light cast. I have no pain at all and am gaining in weight. Am up to 120 pounds.



Reminders by the Prodigal

We have been told that there are times of revivals in all things. This is a time of revival of "Harmonic Therapeutics."

It is the glory of nature to conceal and man to reveal. The inquisition of nature is not interdicted or forbidden. It is the character of science to reduce incessantly the number of unexplained phenomena.

"Green plants are the producers, animals are the consumers, bacteria are the middlemen."

A scallywag is a man who is against everything and for nothing. Another man may become so great that we forget his faults.

Chance has given birth to most inventions.

A superstitious man is the same as a coward in the army. Beware of superstition.

The thinking part of mankind is limited to a very small number.

Sleep is not caused by toxins. It is by sleep toxins are prevented.

To keep well, all we have to do is to quit doing things that make us sick.

Oxygen of the air is produced by green plants which are able to split up carbon dioxide. Green plants are able to feed at a very low chemical level, on carbonic acid gas, water and salts.

Photosynthesis is the upbuilding of carbon compounds with the help of the energy of the sunlight.

As the fruit tells the name of the tree, so do the outward works of man give us whereof to guess at the rest.

Neither can any man so change himself,

but that his heart may be sometimes seen at the tongue's end.

The human intellect makes its own difficulties and until it can correct itself and think right it will give man trouble.

A lawful marriage can be made between empiricism and rational medicine. Attempted divorce and separation have caused all the confusion.

Bacteria are the chefs that prepare nutrition for minute plants as well as many diseases in the human body.

A bacteria is not an animal. It belongs to the vegetable kingdom. It is a filamentous aquatic plant. It produces many kinds of fermentation but does not agree in structure and life history with yeasts and moulds, the agents of fermentations in which alcohols are produced from various kinds of sugars.

Schwann ascribed the putrefaction of infusions in which "Infusoria" appear to the life and nutritional processes of the Infusoria. He said they take the chemical elements from the infusion of vegetable matter as nutrition, and this causes the breaking down or putrefaction of the organic chemical compound which is dissolved in the infusion. Hence putrefaction is the immediate outcome of life and not of death, for without the presence of the living Infusoria the infusion would remain clear and unchanged for an unlimited period.

Williams of Rochester, N. Y., says, "There is no effect of the drug insulin when given by the mouth but only when it is given subcutaneously or intravenously." If that is true there may be many other drugs and serums whose effect is nil when given by the mouth. Better so, and thus tone up the mind of the patient expectantly than to give lethal doses on a guess.

Chemistry is outdoing nature. Synthetic products equal the natural but are more costly. Nature has the chemist at a disadvantage in not having a time limit. Like the Arkansaw hog—"don't care for time." But time is an essential element to the chemist. However, as the alchemists knowledge increases by his discoveries and findings he may be able to compete with nature in doing the needful quicker. The chemist can make synthetically, indigo, turkey red dye, vanilla, oil of wintergreen, sepia, which was obtained formerly from the cuttle fish, sugar, caffeine, salicylic acid, acacia and many complex substances. One of the most notable and valued achievements of the chemist is synthetic adrenalin.

THE JOURNAL

of The

Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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How Far Shall the Society Protect You?

A proposition was submitted to the House of Delegates at the last annual meeting to provide full indemnity for loss by damage suits for the members of the Society and to increase the annual dues sufficiently to provide for a sinking fund which in a few years would constitute an endowment fund with sufficient income to take care of all judgments that might be secured.

A committee was appointed to consider the matter and report back to the House of Delegates. The committee, feeling that a matter of so much vital interest should not be decided by uninstructed delegates but should be carefully considered by every member of the Society, reported back a resolution to amend the constitution so as to allow the annual dues to be raised to ten dollars. Since such a resolution must lie over for one year every member of the Society will have an opportunity to consider the proposal and the members of each county society will instruct the delegates from that society according to their wishes.

It may be stated now that no officer of the Society and no member or group of members has any personal interest in this proposition. The Chairman of the Defense Board, being in closer touch with the business of

defending the members against suits for malpractice, knows more concerning the difficulties met with and the complications arising from our incomplete system of defense, than any of us. From his annual report to the House of Delegates we quote the following: "It seems to the Board that steps should be taken at once, looking to the establishment of a fund from which to pay possible judgments. An additional amount of five dollars collected yearly from each member, would, in five or six years, accrue into a sum, the interest on which would meet all probable demands from adverse judgments."

To suggest or to think that the Chairman of the Board has any personal interest in this proposal would be absurd. He has served in this capacity for ten years and during that time neither he nor any other member of the Board has received any pay for his services. The defense fund can only be drawn upon by vouchers and a list of these for the past year are given in the last report, in which it will be noted that the only item for expense of the office of the Board is \$7.50 for stationery. Evidently the Chairman pays for the postage used in his correspondence out of his own purse. It is inconceivable that the Board would have made such a recommendation had its members not believed that the members of the Society would be more completely and more economically protected against malicious suits for malpractice by such a plan. It is just as inconceivable that the attitude of the officers and councillors toward the proposition is determined by personal interest. So far as known at this time a majority of the officers and several of the councillors are opposed to it.

There is really no doubt but the proposition would have been voted down by the House of Delegates at the last annual meeting had it come to a vote at that time. But it was not a matter for the officers, the council or the delegates to settle until each member has had an opportunity to consider the proposition for himself. Some of the members have already declared their opposition, some have said that the benefits of our defense system are only realized by the surgeons and specialists. A review of the re-

ports of our Defense Board and those of the Defense Boards of other state societies will prove that this is not a fact. These reports will show that no practitioner of medicine is immune. However, the most active opponents of the proposition are the surgeons and specialists, a majority of whom carry indemnity insurance which costs them three or four times what it would cost them under the plan submitted to the Society. Some of them at least feel that this liability to suits for malpractice is a personal responsibility and that each individual should assume the cost of his own protection.

On the other hand, there are a good many, both among those who carry indemnity insurance and among those whose only protection is the defense fund of the Society, who believe that a mutual defense system is more effective and more satisfactory and should be more economical than any other kind of defense. Some of them at least have been led to adopt this opinion since our defense was established.

A good many years ago the amount of annual dues was increased by one dollar in order to take care of the defense of members of the Society and the sum thus raised each year has, up to the last annual meeting, been more than adequate for the purpose. At the time this increase was proposed there was quite a little opposition. Some of the members offered the same objections that are offered now. They regarded the provision for defense as wholly for the benefit of the surgeons and specialists, while the surgeons and specialists objected because they must continue to carry insurance which gave them indemnity for judgments as well as the costs of defense. They regarded the increase in dues as payment for something already paid for, as a contribution toward the defense of those who do not carry other insurance. A considerable number of those who carry indemnity insurance still feel that they receive no benefits from the defense system of the Society. We have all benefited indirectly however for there is no doubt but the number of suits for malpractice has diminished considerably since the defense fund was established and those who have been in close touch

with its administration are satisfied that fewer judgments have been secured than might reasonably have been expected without the mutual interest created by the establishment of the fund. It is the general recognition of this fact that has withheld the opposition of those who carry other indemnity insurance to the operation of our defense system. The number of these is growing, and the memory of the harassment the profession of Kansas endured prior to its inauguration is gradually fading. Lack of enthusiastic support of the defense fund, and the many complications that arise when both the Society and the indemnity company are called upon to defend these cases, presage the ultimate abandonment of our defense system or the enlargement of its scope to include complete indemnity.

The committee appointed at the annual meeting is collecting information and it is hoped that it will be able to present such facts as may be determined in regard to the various plans of defense for the consideration of the members in sufficient time before the annual meetings of the county societies, so that the subject will be discussed, and each county society decide how its delegates shall vote. It is probable that the committee will be able to present outlines of other plans besides that suggested in the report of the Defense Board. At any rate, it is safe to assume that the committee will make a careful and thorough investigation, and submit whatever evidence it finds both for and against the advisability of adopting a complete defense system.

—R—

Training of Nurses

Practically all the hospitals are more or less controlled by medical men, some of them directly, others indirectly. There are few hospitals in which the medical staff does not in some degree act, at least in an advisory capacity, with the board of managers. There are on the staffs of a considerable number of hospitals men who are now, or who have been, connected with the faculty of some medical school.

Whatever objections may be raised to our present system of medical education, it must be admitted that experience has proven the great importance of standardized curriculum.

It seems strange that the members of hospital staffs do not assume an aggressive attitude in the matter of standardizing the training schools for nurses.

The present situation is very fairly stated in the report of the Council on Medical Education and Hospitals at the last A. M. A meeting. From this report we quote as follows:

"Nurse training in the United States today is not standardized, systematic or uniform in the matter of entrance requirements, length of the course, and methods of teaching. The nurse training schools connected with the great modern hospitals differ widely from those existing throughout the country away from medical centers.

"Legislation cannot be looked to as a solution. All states except New Mexico have laws governing the registration of nurses. Wide variations are allowed in entrance requirements and length of course which account, perhaps, for the equally wide variations in the methods of administration of nurse training schools and in the character of the courses offered.

"The defects in the training schools of today are:

"1. The course, on the whole is unsystematized, unstandardized, and far from uniform.

"2. There is too little systematic instruction in practical work and too much theory, and certainly a lack of correlation between the two elements.

"3. Too many of the teachers are poorly qualified.

"4. There is too much waste of the pupil nurse's time in uneducational routine work.

"5. Many schools are connected with hospitals having utterly inadequate clinical facilities."

The schedule of defects as given in this report is comprehensive but there might be added to it that the course of training is considerably longer than the amount of knowledge and skill required of an efficient nurse really justifies.

Some efforts to standardize the course of instruction has been made but so far there has been no concerted effort and training of nurses is, in many instances at least, a haphazard system providing whatever instruction the available time and convenience of the teaching staff permits and of such character as their ability or interest suggests.

None of the proposed standard courses of training seem to have met with general approval by the training schools. The course recommended by the committee on Education of the National League of Nursing Education provides for 595 hours of theoretical instruction.

By cutting out several superfluous subjects and combining a number of others this curriculum could be reduced to 420 hours which could easily be given in an intensive course in fourteen weeks and the student then be ready for practical instruction in the hospital, better prepared to understand the duties she is expected to perform.

One of the greatest difficulties in providing a practical course of instruction is the lack of text-books adapted to the practical needs of the nurse. There is an over abundance of text books prepared for the purpose, but most of them have been written apparently on the theory that nurses are children. The subjects have been handled much as such subjects would be handled if taught in a grade school. No attempt is made to select the topics of practical value to the nurse and in many cases the topics most elaborated are those of no practical value whatever.

—R—

Report of Indemnity Proposition at the A. M. A. Meeting

We have extracted the following from the report of the Bureau of Legal Medicine and Legislation on the recommendation made at the St. Louis meeting regarding the adoption of a plan of defense against suit for malpractice by the A. M.

"At the St. Louis Session, in May last, the Reference Committee on Reports of Officers said: 'We approve legal defense indemnity in malpractice suits, and the Board of Trustees is requested to report a concrete plan at the next annual session.' This report was adopted by the House of Delegates. The duty of investigating the situation with a view to the formulation of the plan requested was assigned to the Bureau of Legal Medicine and Legislation.

Letters have been sent to each constituent association to learn the nature and extent of the medical defense service furnished by it. From six, no replies have been received. Of the remainder, thirty-two, representing a membership of 75,324, provide legal defense, and of these, one, representing a membership of 3,335, for a specified annual premium indemnifies such of its members as subscribe for the service against loss through the award of damages. Fifteen constituent associations, representing a membership of 8,335, provide neither legal defense nor indemnity.

Twenty-one constituent associations furnished information as to the financing of their legal defense activities. In one state, where such service has been maintained for fourteen years, the per capita allotment to

the medical defense fund has never exceeded 75 cents, and during 1918-1919 was reduced to 25 cents; and yet the fund contains a substantial balance at the present time. In one other state, 75 cents is set aside for the medical defense fund, out of the dues paid by each member. Four states set aside out of the dues, or collect, \$1 per member; four set aside, or collect, \$2; one sets aside \$3; one collects \$5; and one collects \$7. In one state the fund is made up by voluntary contributions of \$10 each. In the other states from which replies were received, the expenses of the medical defense are paid as needed out of the general funds of the association, apparently no special allotment for that purpose being made. In the one state in which indemnity is provided, the cost per subscribing member per annum is \$30, and in one year an assessment of \$10 per member was levied in addition.

The returns are not sufficiently complete to permit a statement of cost to be made on the basis of the number of members actually eligible for medical defense service. Computations have been made, therefore, on the basis of the total membership of the associations reporting the cost of operations. Such operations include activities outside of cases pending in trial and appellate courts, and in stating costs, the number of court cases so pending have been given merely as indexes to the volume of work done. In the absence of complete information, it has been deemed best to omit from the table the names of the states to which he figures relate; their publication would seem to come properly in a table giving data for all states, and the publication of such a table is not yet feasible. It will be noted that the per capita cost during 1922, the year of these figures, varied from \$.04 to \$4.13.

So far as any conclusions may be drawn from the information now at hand, the following is submitted:

1. There is no evidence yet available to show that the American Medical Association could wisely undertake the organization of a medical defense service for its Fellows and members, or that services of this character cannot be best maintained by the constituent associations.

2. There is no evidence yet to show that the American Medical Association could wisely undertake to organize an association or corporation, mutual or otherwise, to indemnify Fellows and members of the Association against loss through judgments rendered in malpractice suits.

3. It is possible that the American Medical Association might serve its constituent asso-

ciations by assembling records, not merely decisions, of malpractice cases, including records of proceedings in both inferior courts and appellate courts, and analyzing them from both medical and legal standpoints; and by the record of such analyses make available to constituent associations the procedure adopted successfully, or unsuccessfully, in cases that have come to trial.

The foregoing suggestions are submitted for consideration, in the hope that by discussing them something of value may be developed to guide the Bureau of Legal Medicine and Legislation in its further duties and activities in this field. Its inquiry into the relations of the national association to the state associations will be continued unless instructions be issued to discontinue it."

R The A. M. A. Meeting

The following has been received from Dr. F. A. Carmichael who was one of the acting delegates from the Kansas Medical Society: Editor "Journal":

Reporting on the A. M. A. meeting would say that the attendance was rather light. Perhaps the location of the meeting on the extreme western coast prevented a heavy attendance. The various sections had a rather small attendance though the program in general was up to or above the usual standard.

In the house of delegates no effort was made to establish an indemnity fund, the principal discussion aside from the election of officers being the attitude of the profession to the present regulations of liquor prescription as influenced by the Volstead act. Delegations from the East feeling that some amendment should be effected as the restrictions imposed on physicians reflected on the integrity of the profession. The majority, however, felt that the matter would be safer as administered at the present time until such time as Federal authorities saw fit to make a change.

The election of President resulted in a rather close race between Dr. Pusey of Chicago, and Dr. Haggard of Georgia, the former winning the Presidency by four votes.

The general impression derived from discussion in the house of delegates was that the next meeting will probably be held in Chicago which I feel sure will result in a much larger attendance than was present at the San Francisco meeting.

The cordiality of the profession of California and the effort put forth to make the meeting a success as well as the elaborate entertainment carried on for visiting members of the profession evoked a high tribute to the

western coast people by those privileged to enjoy their hospitality.

Very sincerely yours,

F. A. CARMICHAEL, M.D.

—R—

CHIPS

The Chiropractic Board of Medical Examiners of California, recently appointed by Governor Richardson, has been ousted by a decision of the Superior Court. The illegality of the appointment consists in their having practiced their profession without first obtaining a license from the State Board of Medical Examiners, hence any practice was a misdemeanor. It is known that most, if not all members of the board have had three years of what the court termed "illegal practice." The rub is a dissatisfied Chiropractor brought the proceedings. He was "peeved" at the members of the newly appointed board. When the pseudo-medic is compelled to become educated up to the standard of the physician, rational medicine will be vindicated and truth and justice will prevail.

Sydney Forsdike, *Lancet* June 30, says: "In my opinion radium treatment should be the method of choice in all uncomplicated cases of severe and persistent hemorrhage due to chronic metritis, inflammatory disease of the tubes and ovaries constituting the sole contraindication. The radium menopause is not usually accompanied by any symptoms attributable to action upon the ovaries, and of all methods it produces the least disturbance of the patient's chronic life."

It is claimed that cases of hypertension are most satisfactorily treated by feeding a diet free of sodium chloride and sodium bicarbonate. The salt intake should not exceed eight grains daily. Under this diet it is stated that a blood pressure of 200 will fall rapidly to less than 150 and can be retained there. While milk must be excluded on account of its high salt content cream may be used.

The St. Louis doctors have formed a credit bureau. In commenting upon this, the St. Louis Times says that it is entirely proper for doctors to rate their patients as to financial ability or intention to pay, for "the doctor has been long suffering as to bills receivable and his turn to show good business sense assuredly has come." We really can see no good reason why doctors should not use the same discrimination in extending credit that is exercised by people following any other vocation, and they certainly have a

right to know all about people who can not or will not meet medical bills. Every doctor extends charity where charity is due but he ought to protect himself from imposition.—(Jr. Ind. State Med. Soc.)

It might be mentioned in connection with the above that the Kansas Medical Society established a Credit and Collection Bureau two years ago and that a considerable number of its members have found its service advantageous. Some of course have not yet learned of its existence. Some are afraid to give their no-pay patients cause for offense. On the whole the Bureau is developing into a very important department of the Society.

Some recent clinical work indicates that sulphur given intramuscularly in an oily solution has a specific effect on chronic arthritic conditions. Dr. Herbert Hayn, Breslau, reported eleven cases of different forms of arthritis, some of many years standing and bedridden. In all marked improvement was noted and bedridden patients left the hospital walking. Intramuscular injections of a 1 to 8 per cent emulsion of sulphur in oil are repeated at 5 to 6 day intervals until from 5 to 13 injections are given. Immediate severe reactions are caused—marked rise of temperature, rigors, headache, pain in joints. Reaction subsides in from 24 to 48 hours. No general disturbance of the renal, vascular or hemopoietic systems was observed. Hot applications, massage and passive movements should supplement the treatment.

It is wonderful how easily and definitely our scientific problems are solved when the right man undertakes the task. For instance, E. G. Gilbert, in *Roycroft*, says: "Scientists have long recognized that nerve energy and electric energy are analogous;" and after describing certain experiments in brain stimulation with the electric current, concludes, "As no other stimulus gave results two things are evident; nerve energy is really electric energy and the gray matter of the brain acts as a storage battery and supplies the electricity. *The battery is kept charged by the breathing, as electricity is taken from the air. Any person having need of extra energy or power for feats of strength draws a deep breath and holds it. Why? To draw out the electricity.*"

Wright and Livingston, from a study of the leucocyte count in 102 cases of ruptured ectopic pregnancy (N. Y. State Jr.), have concluded that a hemorrhage in a serous cavity always results in a high leucocytosis, the reaction presenting a characteristic curve

reaching a height of 150 per cent to 300 per cent increase within the first ten hours and returning to normalcy by the fourth day. This immediate increase in the white count is an important diagnostic sign in any disease with a recent intracerebral blood clot. Such an immediate rise in the white blood count following a cranial injury is presumptive evidence of intracranial bleeding and fracture of the base of the skull. Its absence excludes fracture of the base of the skull.

Dr. Chas. E. Terry, Chairman of the Committee on Habit Forming Drugs, American Public Health Association, says that a newborn baby, born of an addicted mother is a narcotic addict at birth; and a few hours after birth will show withdrawal symptoms, the same symptoms that an adult will show on withdrawing the drug. It may die if opium is not administered until the milk flow of the mother is established, when it will get the drug through the mother's milk.

The Department of Commerce announces that the birth rates for 1922 were lower than for 1921 in the 25 states in which figures for the two years are shown; and the death rates for 1922 are slightly higher than for 1921 in 19 of the 27 states shown for both years. The death rates per 1,000 population in the principal cities in Kansas for 1922 were: Arkansas City, 12.2; Atchison, 10.8; Chanute, 13.3; Coffeyville, 12.0; El Dorado, 8.8; Emporia, 11.0; Fort Scott, 16.3; Hutchinson, 11.6; Independence, 13.2; Kansas City, 13.1; Lawrence, 16.1; Leavenworth, 16.4; Parsons, 8.1; Pittsburg, 9.0; Salina, 13.2; Topeka, 15.0; Wichita, 13.6.

In an article published in the New York Medical Journal, May 16, Dr. J. W. Kennedy, Philadelphia, says: "As an abdominal surgeon I know that over ninety per cent of the deaths which occur in my specialty come from human errors and that a reprehensible proportion of this death rate may be laid at the door of our state legislatures." . . . "I have signed many death certificates which should have been signed by the legislators who permitted the irregular to place his sign in the neighborhood of the unfortunate and misguided patients."

In a little village down in the Ozarks there is an old doctor who conducts a private hospital for the accommodation of two or three patients. One of his former patients told the writer that after spending four or five thousand dollars with the doctors of Chicago and New York for treating his ailment, which he said they diagnosed as "partial paralysis of

the bowels," he by accident fell into the hands of this doctor and was cured with three tablets. This doctor told him he had "malaria of the bowels."

"Pilcherism" is now a term in very common use, but few will associate its origin with the man who was at one time superintendent of the Home for Feeble Minded at Winfield and castrated a considerable number of inmates of that institution. We learned from his son who is employed in a hotel at Enreka Springs, Ark., that about 9 years before his death Dr. Pilcher became a devout disciple of Christian Science and so remained during the rest of his life.

Rosenau, *Preventive Medicine and Hygiene*, says that in the early days in Michigan the sheep industry became unprofitable because so many sheep were goitrons. But in a short time the sheep began to do better in every way and the lambs were free of goiter. Instead of getting salt from a remote source the sheep were fed salt from some salt mines which were opened up in the vicinity of Detroit. This salt contained a small quantity of iodine. In Montana, it was estimated that 1,000,000 sheep were lost annually on account of goiter. When a small addition of iodine was added to the salt and fed the sheep it prevented goiter development. Iodine was the treatment of goiter fifty years ago. The goiter patients were called yellow necks because of the discoloration of the skin over the site of the goiter by the external application of the iodine.

The probable reason why the chances for the complete cure of a generalized syphilitic infection are poor, says the U. S. Public Health Service, is because the usual remedies (arsphenamine, neoarsphenamine, and silver arsphenamine) all lack the power necessary to enable them to penetrate the infected tissues in sufficient amounts to destroy the last remaining parasites. Other arsenicals, supharsphenamine, tryparsamid, and 3-amino-4-oxyphenol arsonic acid, have superior penetrative powers and their use as remedies is suggested.

The report was made by Carl Voegtlin, M. I. Smith, Helen Dyer and I. W. Thompson, all of the U. S. Public Health Service, after prolonged experimentation, both chemical and bacteriological, on rabbits. While the authors admit that results so obtained cannot be transferred, without reservation, to the treatment of human syphilis, they nevertheless advance several reasons that cause them to believe that a clinical trial of the more penetrative preparations named is strongly indicated.

In conclusion they express, as Ehrlich did, their belief that no matter what arsenical may be used better results will be obtained from single large doses a week apart than from smaller doses given at shorter intervals.

In a paper on the cause of death in intestinal obstruction (*Lancet*, July 14), Seion Pringle makes the following conclusions: "The principal factor in causing death in intestinal obstruction is a toxin which is developed chiefly in the duodenum and though not absorbed from normal intestine is absorbed under the conditions which prevail in obstruction. The exact chemical composition of the toxin is still under dispute, but it is almost certainly of the nature of one or other of the toxic bodies derived from protein disintegration. The exact mode of production of the toxin is also undecided, but probably the presence of pancreatic secretion, and, in a lesser degree, the activities of bacteria are necessary for its production. While the duodenum is the site of maximum intensity in obstruction, yet the poisonous substances are developed lower down in the intestine, and it is probable that in the production of these toxins bacterial action plays an important role—a role which increases in importance the lower down the obstruction occurs."

The thirty-sixth annual meeting of the Medical Society of the Missouri Valley, is to be held in Omaha, Neb., September 18 to 21, in conjunction with the meeting of the Interstate Society of Radiology and Physiotherapy. This is a new organization, and its sessions will be held at the Fontenelle hotel on Tuesday and Wednesday, while the Missouri Valley sessions will be held on Thursday and Friday. This plan will give the members of both associations a chance to mingle, exchange their views, and to become acquainted. A joint "Gettogether" dinner will be held on Wednesday evening, at which distinguished men will speak.

Dr. C. L. Mullins is the President of the Interstate Society, and Dr. Roland G. Breuer, of Lincoln, is the Secretary.

Hotel reservations should be made without delay.

An elaborate exhibit will be held on the mezzanine floor of the Fontenelle hotel which will be worth while.

Clinics will be held on Tuesday and Thursday mornings.

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Cod Liver Oil in Tuberculosis

Experiments carried out in the Hygienic Laboratory of the U. S. Public Health Service to determine the effect of cod liver oil

on the tuberculosis of the guinea-pig failed to show any definitely beneficial effects. There was no evidence of the deposition of calcium when this element was administered along with the cod liver oil. These results warn against unwarranted optimism and justify critical investigation whenever calcium or cod liver oil are lauded as a specific in tuberculosis. (*Jour. A. M. A.*, June 16, '23).

—R—

The Board of Health Case

No. 25,111

The State of Kansas, ex rel., Chas. B. Griffith, Attorney General, Plaintiff, v. Leon Matassarin, et al., Defendants.

Original Proceedings in Quo Warranto. Judgment for Plaintiff.

SYLLABUS BY THE COURT

JOHNSTON, C. J.

1. Persons appointed by the Governor as members of the State Board of Health in pursuance of Section 10119 of the General Statutes of 1915, were submitted to the Senate for its action, but that body failed to act thereon and has not since that time rejected the appointments. After the adjournment of the Legislature the Governor issued commission to the appointees for terms of three years, which have not yet expired. While these officers were serving under the appointments made, the newly elected Governor notified these members that the Senate not having confirmed their appointments he had revoked them. HELD, that the appointments of the members although not acted on by the Senate and which have never been rejected by that body entitles them to hold their offices to the end of their term or until the appointments are considered and rejected by the Senate.

2. Whether or not the senate confirms or rejects appointments should appear in the journals of that body and even if evidence other than that shown in the journals as to the action of the senate on appointments may be received, it is held that a mere recital in the commission issued by the Governor that the appointment had been confirmed does not establish the fact.

3. In making appointments of members of the State Board of Health it is the duty of the Governor to transmit such appointments to the senate for its action thereon and if such appointments are made during a recess of the legislature it is his duty to transmit such appointments to the senate at the first session after the appointments are made and where the Governor reappoints and commissions members of the board for full terms during a recess of the senate and such appointments are not transmitted to or acted

upon by the senate at the ensuing session, the offices do not become vacant by such inaction and the Governor is without power to revoke their appointments by reason thereof.

4. In the absence of a statutory provision that the failure of an appointee to take and file his oath of office shall operate to create a vacancy, such failure by one who is appointed and has entered upon the discharge of his duties, and no action is brought by the State to declare a forfeiture of the office for such omission, will not of itself operate to create a vacancy in the office.

5. The action of a legal member of the board in qualifying under an appointment, attending and participating in an illegally constituted meeting of the board, where there was less than a quorum of those who assumed to act at such meeting, cannot be regarded as a resignation of his office or as affecting the title to the office with which he had been vested under a previous legal appointment.

6. Under the evidence in the case it is held that a meeting of the board duly held on June 5, 1923, and attended by a majority of legal members of the board, was a legally constituted meeting and its acceptance of the resignation of the secretary and executive officer of the board, and the election of his successor, vested the latter with a good title to his office.

Johnston, C. J., Burch, J., Mason, J., Marshall, J. and Hopkins, J. concurring.

Harvey, J. concurring in the result and Dawson, J., concurring specially.

A true copy. Attest:

D. A. VALENTINE,
Clerk Supreme Court.

The opinion of the court was delivered by

JOHNSTON, C. J.: This is an original proceeding in quo warranto brought in the name of the State on the relation of the Attorney General to determine the membership of the State Board of Health, and also as to who is entitled to the office of Secretary of that board. The plaintiff alleged that the State Board of Health is composed of the following named persons who were legally appointed, were duly qualified and are acting members of the board, namely: Dr. J. E. Hawley, Dr. J. J. Entz, Dr. C. H. Lerrigo, Dr. J. T. Axtell, Dr. F. W. Landrum, Dr. H. L. Aldrich, Dr. O. D. Walker, Dr. C. A. Fisher, Dr. D. E. Smith, Harry K. Allen.

It appears that in 1918 Drs. Walker, Aldrich and Lerrigo, had been duly appointed and had received commissions during a recess of the senate to hold terms of office expiring in March, 1921, and that oaths of office had been duly filed by them. On March 16, 1921,

the Governor reappointed them to succeed themselves for terms of three years and on the same day messaged the appointments to the senate for its action. The records of the senate do not show what action if any was taken on the message. In issuing commissions to these doctors the Governor recited in them that he was appointing them by and with the advice and consent of the senate for a three-year term ending on March 28, 1924. Dr. Lerrigo filed his oath of office at that time, but Walker and Aldrich did not. Prior to 1922 Drs. Axtell, Hawley and Entz had been duly appointed and had acted as members of the board for terms expiring March 30th, 1922. On that date Governor Allen reappointed and commissioned them for terms of three years, expiring in March, 1925. Drs. Hawley and Entz made and filed their oaths of office but Axtell did not. The senate not being in session in 1922 these appointments were not then confirmed and when the senate convened in 1912 the appointments of these members were not messaged by the Governor to the senate and no action was taken on them during the session of 1923. Those appointed in 1921 and 1922 all entered upon the duties of their offices and continued to discharge those duties until March 28th, 1923. At that time Governor Davis addressed a letter to each of the aforementioned appointees of Governor Allen, making inquiries as to age, school of medicine, time of active practice, political affiliations and his attitude as to the appointment of a new secretary of the board, and also if he would be willing to resign on invitation. As no resignations were tendered Governor Davis on April 18th wrote a letter to Aldrich, Lerrigo and Walker notifying them that he had revoked the appointments given them for terms beginning March 25th, 1921, and ending March 28th, 1924, stating that the revocation was based on the ground that the appointments had been sent to the senate for confirmation and that no action had been taken thereon. On April 18, 1923, the Governor also notified Drs. Axtell, Hawley and Entz who had been appointed in 1922 for terms ending in 1925, that he had revoked their appointments saying that he did so "because the appointment is not approved by the senate. It was not sent to the senate and of course no action had been taken thereon." On April 19, 1923, the Governor announced the appointment of Dr. Axtell for the term ending March 25, 1925, and a commission was issued to him, whereupon he took and filed his oath of office. On April 19, 1923, the Governor also announced that he had appointed Dr. Aldrich for the term

ending March 28, 1924, and a commission was issued to him, whereupon he took and filed an oath of office as a member of the board under the appointment. On or about April 18, 1923, Governor Davis after the attempted revocation mentioned appointed and commissioned as members of the board: Dr. E. Smith, Dr. F. W. Landrum, Dr. C. A. Fisher, Dr. W. G. Patton, Dr. J. A. Connor, Dr. C. A. Laffoon, Dr. C. R. Lytle, who each took and filed an oath of office. Patton was appointed to succeed Walker, Connor to succeed Lerrigo, Laffoon to succeed Hawley and Lytle to succeed Entz. It is conceded by both parties that Drs. D. E. Smith, F. W. Landrum and C. A. Fisher were legally appointed and are entitled to serve as members of the board. On notice from the secretary the appointees of Governor Davis just named and also Drs. Axtell and Aldrich, held a meeting on May 14th, 1923, at which Dr. Patton was temporarily appointed as President, and Dr. Laffoon as Vice President. About June 1, 1923, Governor Davis notified Dr. Axtell that he had revoked his appointment and commission as a member of the board of health on the alleged ground of partisan political activity, but Dr. Axtell replied denying activity and also the right of the Governor to remove him before the expiration of his term of office. About that time the Governor appointed Robert G. Klein as a member of the board to succeed Dr. Axtell and issued him a commission, whereupon he took and filed his oath of office. In the early part of June, Dr. Landrum resigned his office and the Governor appointed Dr. Henry Smith to succeed him. The annual meeting which was to have occurred on June 27th was advanced to June 7th, and was attended by eight of the aforementioned appointees of Governor Davis, but Dr. Aldrich, one of the Davis appointees, failed to attend. At this meeting on June 7th, the board so constituted elected Dr. Matasarin as secretary of the board to serve for a period of four years and he immediately took the oath of office and executed a bond for the faithful performance of his duties.

At an annual meeting held in 1922, Dr. Hawley had been elected President of the board, and on June 1st, Hawley instructed the secretary to notify the legal members of the board that a meeting would be held on June 5, 1923. Pursuant thereto the secretary sent notices to those designated as the Allen members and also to the appointees of Governor Davis, whose right to the office was conceded by the plaintiff. The meeting was held on June 5th and was called to order by Dr. Hawley. At that meeting Drs. Axtell,

Aldrich, Lerrigo, Hawley, Walker, Entz and Dr. Crumbine, were present. Dr. Hawley was then nominated and unanimously elected president by those present for the coming fiscal year. At the same time Dr. Crumbine presented his resignation to the State Board of Health, which was accepted. On motion which was duly seconded, Dr. Milton O. Nyberg, of Wichita, Kansas, was nominated as secretary and executive officer of the board to succeed Dr. Crumbine, and was unanimously elected for a term of four years from date. Dr. Nyberg, the new secretary, was instructed to ignore the actions and proceedings at the meeting of the challenged members appointed by Governor Davis and to refuse to turn over the records or property of the department or permit the holding of sessions in the offices of the State Board of Health by them. He was also instructed to ignore the proceedings of what was termed the illegal meeting held on May 4th, and not to include the transactions of that meeting in the records of the board. Immediately after his election by the board on June 5, 1923, Dr. Nyberg filed his oath of office and presented to the Governor for approval his bond signed by a surety company. The Governor refused to approve the bond but did not raise any objection to the adequacy of the surety and it is admitted that the bond is adequate and regular both as to amount and responsibility of the surety. Immediately after filing his oath of office Dr. Nyberg entered upon his duties, took possession and control of the office of the secretary and executive officer of the board, and of all the files and records belonging to the board. These proceedings were taken, however, without the knowledge or consent of any of the appointees of Governor Davis, except Dr. Aldrich and Dr. Axtell. Shortly after taking possession of the office by Dr. Nyberg and while he was temporarily absent from the same on the 7th day of June, 1923, the Davis appointees entered the rooms without the consent of Dr. Nyberg and claimed the right to the possession and control of the records. The present proceeding was then brought to determine who were the legal members of the board and who was entitled to the office of secretary. On application of Dr. Nyberg he was allowed to intervene as a party and set up his claim that he was entitled to the office of secretary and executive officer of the board.

The State insists that the group of members appointed by Governor Allen in 1921 which consisted of Walker, Lerrigo and Aldrich, were in fact confirmed by the senate and if not confirmed were at least not rejected

and that having been appointed and in possession of their offices there was no vacancies and the Governor was without power to remove them and having no power to remove he had no authority to appoint their successors. The defendants contend that the appointment of these officers had never been confirmed by the senate, that they were holding over under appointments and confirmations previously had and as the Governor had the power to make recess appointments he was authorized to treat their terms as expired and to appoint their successors.

As to a confirmation of the appointments made in 1921 the senate journal recites that they were submitted to the senate for its consideration on March 16, 1921, but it contains no mention or record of the action taken thereon. In the commissions subsequently issued to them by the Governor there is a recital of confirmation by the senate and under these commissions the appointees entered upon their offices, performed the duties of the same and were recognized as such officers by the other departments of the government. In this situation it is contended that confirmations may be implied. The evidence of the action of the senate should be found in its journals and records instead of in recitals in the commissions issued by the Governor. Those recitals cannot be regarded as proper proof of the action taken by the senate. It is argued that no evidence outside of that contained in the journals is admissible to show what was or was not done by that body. Whether the rule which governs as to proof of legislative action on a bill obtains as to the action taken by the senate in giving advice and consent to appointments of the Governor or whether in the silence of the journals as to what if any action was taken, proof outside of the journals may be resorted to, it is unnecessary to decide. It appears that valid appointments were made, the journals do not show a rejection of the appointees by the senate and no evidence tending to show rejection has been produced. The senate of course can take its own time for the consideration of appointments and as to its consent or its concurrence in them. Assuming as we must that the appointments in question were neither confirmed nor rejected by the senate in the session of 1921, what is the effect of the commissions that were issued by the Governor to the appointees after the senate adjourned without action, appointing them for the full term and which did not expire until March, 1924. The appointments clothed the appointees with all the powers and prerogatives of the offices for the terms named, subject only to be terminated by re-

jection of the senate, resignation, death or removal from office for cause by officers or tribunals vested with authority to remove. The pertinent statute creating the State Board of Health provided for the appointment and qualification of its members and prescribing their terms as well as the filling of vacancies is as follows:

"Within thirty days after this act shall take effect, the governor, by and with the advice and consent of the senate, if it then be in session, shall appoint from the different parts of the state nine physicians, who shall be men of good moral character and temperate habits, distinguished for their devotion to the study of medicine and allied sciences, and not less than seven years' continuous practice in their profession, and each of whom shall be a graduate of a reputable medical college. The governor shall also appoint one other person, not a member of the medical profession (preferably an attorney interested in sanitary sciences), and said persons, when so appointed and confirmed shall be known as 'The Kansas State Board of Health.' Three of the members of said board shall be appointed for one year, three for two years, and four for three years; and annually thereafter the governor shall in like manner appoint successors of like character and qualifications to fill the vacancies occurring in said board by reason of the expiration of the terms of service as herein provided, and the persons so appointed shall hold their respective offices for the like term of three years, and until their successors are appointed and qualified; but in no case shall the governor appoint a majority of the physicians that shall constitute said board of health from any one school of medical practice nor shall said board at any time be composed of persons a majority of whom shall be of the same school of medical practice. Upon the appointment of the persons provided for in this act, the secretary of state shall issue to each of them a certificate of his appointment, and within twenty days after such appointment the said ten persons shall meet in the city of Topeka, and they shall each take and subscribe to the oath prescribed by law for state officers, which shall be filed with the secretary of state; and thereupon said board shall immediately organize by electing one member of the board president. The member of said board who is not a physician shall have no vote in the election of officers, but shall have a vote on all other question arising in the regular quarterly meetings of the board. The president of said board shall have no vote on any matter other than the election of officers unless there is a tie vote, when he shall have the deciding vote. The board shall also

elect a secretary, and said secretary shall be the executive officer of said board, but not a member thereof. The secretary shall execute to the state of Kansas a bond in the sum of five thousand dollars, with sureties, to be approved by the Governor, and when approved it shall be filed in the office of the secretary of state. Said bond shall be conditioned for the faithful performance of duties of his office as such secretary, and he shall take and file a like oath to that prescribed for the members of said board. The board may elect one of its own number secretary, but in such case such election shall create a vacancy in the board, which shall be filled by the governor. It shall be the duty of the governor to fill all vacancies which may occur in the board; and all appointments whether original or to fill vacancies, made during the recess of the legislature, shall be submitted by the governor to the senate at its first session after such appointment is made, for its action; but all lawful actions of the members of the board made before confirmation or rejection shall be valid. The executive council shall provide the state board of health with a suitable office at the city of Topeka for the transaction of its business." (Gen. Stat. 1915, Sec. 10119.)

The statute as will be observed provides that the board shall be composed of trained and experienced doctors of different schools of medicine, three to be appointed each year after the first appointments are made, so that after the organization is completed and the regular order obtains, there will be a majority of the members who will always be familiar with the functions and responsibilities of the board. The terms are definitely fixed and are not shortened or lengthened because of changes in the administration or of incumbents in the Governor's office. The Governor is vested with power of appointment with a requirement that the appointments are to be made upon the advice and consent of the senate "if it then be in session." When it is not in session the Governor has authority to make appointments at the end of terms or to fill vacancies that may occur between sessions. The regular appointments are for three year periods and if there is a death, resignation or removal, the successor appointed can only hold for the remaining portion of his predecessor's term. However, there is no authority to appoint a successor to a member in recess unless there is a vacancy in the office. The three members whose term we are considering and who had been appointed for terms expiring in 1924, had not resigned nor had they been removed from office by one having authority to remove them. They were in pos-

session of their offices under valid appointments and the offices were in no sense vacant. Another person had been elected as Governor but he had the same and no greater power than his predecessor had to declare vacancies in the offices of the members of the board. His predecessor could not during his incumbency have revoked the appointments at will nor have shortened the terms of service of the appointees unless there had been a rejection by the senate or an ouster or removal for cause in the manner provided by law. The supreme executive power vested in the Governor is a continuous one and is to be exercised as the law provides by the one who happens to hold the office at the time of its exercise. Terms of office are not ended nor is there any authority to revoke appointments because there has been a change or succession in the office of Governor. The offices held by the group under consideration were not vacant when the attempted revocation of their appointments were made and the Governor had no power to appoint their successors. (Barrett v. Duff, 113 Kan. —, — Pac. —, and companion cases, just decided.) In respect to members Axtell, Hawley and Entz, it is shown that they were appointed as their own successors on March 30, 1922, when the senate was not in session. They were commissioned for full terms of three years and have been serving as members of the board since that time. No action has been taken by the senate on the appointments so made nor have the names of the appointees been presented to the senate for confirmation. Having been appointed during a recess of the legislature it was the duty of the Governor under the statute quoted to submit these appointments to the senate at the session of 1923. It is provided that:

"All appointments whether original or to fill vacancies made during the recess of the legislature, shall be submitted by the Governor to the senate at the first session after such appointment is made for its action."

If the appointments had been submitted to the senate and it had considered and rejected them, a vacancy would have been created and the Governor would have had power to appoint their successors to hold during the remainder of their terms. As the senate did not act upon or reject the appointments made these officers had as good a title to their offices as the Governor or other elected officers have to theirs. They were not appointed and commissioned to hold until the next session of the legislature but for the full terms of three years and are entitled to hold out their terms unless the senate after consideration should vote to reject them or they should

be ousted from office for misconduct. The attempted revocation of these appointments and the appointment of their successors must be held to be without effect. (*Barrett v. Duff*, supra.)

There is a contention, however, that all of these contested appointees cannot be regarded as lawful members of the board with the right to vote for a secretary because three of them failed to take and file their oaths of office when they were appointed in 1921 and 1922. Those who omitted to file their oaths of office at the time of appointment had been reappointed to succeed themselves and had since that time been serving as members of the board. Two of these who were appointed by Governor Davis did make and file their oaths shortly before the present action was brought. In the absence of a provision in the law that such failure shall ipso facto operate as a forfeiture of the office or create a vacancy, there is no vacancy or separation from office. The State has taken no steps to have a forfeiture declared or to oust these members from office for the omission to take and file their oaths and their omission did not create a vacancy warranting the appointment of their successors. (*Jones v. Gridley*, 20 Kan. 584; *Carpenter v. Titus*, 33 Kan. 7, 5 Pac. 412; *Insurance Co. v. Gasche*, 93 Kan. 147, 142 Pac. 882.) Neither did the fact that Axtell and Aldrich, to whom Governor Davis tendered appointments and who took and filed oaths of office attended a meeting held on May 4, and participated in the proceedings of that meeting, affect their title to the offices they already occupied under previous legal appointments. The majority of those who assumed to hold that meeting were not legal members of the board and the attendance and acts of Axtell and Aldrich were in no sense a resignation of the offices they held under appointments previously made. Their action was not intended as a resignation or surrender of their offices and unless they resigned from the offices the Governor as we have seen was without power to appoint their successors. The meeting held on June 5th was duly called and was composed of a quorum of legal members of the board. It was a legally constituted meeting with power to transact the business of the board, including the acceptance of resignations and the election of officers which the law empowers the board to elect. At that meeting Dr. Crumbine tendered his resignation which was formally accepted by the board and it then proceeded to elect Dr. Nyberg as secretary and executive officer of the board. He accepted the office, made and filed his oath of office and tendered a bond, the sufficiency

of which is not questioned. It was not approved by the Governor, to whom it was presented for approval, but the Governor it appears did not withhold approval because of insufficiency of the security but upon the ground that Nyberg had not been legally elected. An officer vested with the authority to approve an official bond has no right to withhold his approval on the ground that in his opinion the person offering to qualify was not legally elected, and had no title to the office. (*State, ex rel., Dalrymple v. Stockwell*, 7 Kan. 103; *Schmullbach v. Speidel*, 50 W. Va. 553; *Throop on Pub. Off.* §§ 170, 172.)

Nyberg was legally elected and had done all he could towards furnishing a sufficient bond, and the withholding of approval on the ground that he was not lawfully chosen, did not affect his title to the office. The members who elected him are held to be legal members of the State Board of Health and Dr. Nyberg is held to be entitled to the office of secretary and executive officer of the board. That will be the judgment of the court.

Johnston, C. J., Burch, J., Mason, J., Marshall, J., and Hopkins, J. concurring.

Dawson, J.; (concurring specially). I concur in the result, chiefly because the governor neither followed the statute requiring the names of recess appointees to be sent to the senate for confirmation nor did he take the only effective method of terminating the recess appointments made by his predecessor, which would have been by sending to the senate for approval the names of other persons in their stead.

HARVEY, J.: (concurring in the result). The statute relating to the appointment of members of the State Board of Health, (Gen. Stat. 1915, § 10119) specifically provides that "All appointments, whether original or to fill vacancies, made during the recess of the legislature, shall be submitted by the Governor to the senate at its first session after such appointment is made for its action." This the Governor did not do. He cannot take advantage of his own dereliction in that regard and after the legislature adjourns treat the offices as vacant or attempt to remove the incumbents and appoint others in their places. I, therefore, concur in the result. I cannot agree that the appointees by the Governor hold until they are rejected by the senate. The statute requires the advice and consent of the senate to the appointment and this means affirmative action under Article 7 of our Constitution, which provides that the yeas and nays shall be entered in the journal. The silence of the senate journal is no more proof of confirmation of appointees whose

nominations have been sent to the senate by the Governor than would silence of the senate journal be evidence of the passage of a bill.

A true copy. Attest:

D. A. VALENTINE,

Clerk Supreme Court.

—R—

DEATHS

Dr. G. A. Blasdell, of Hutchinson, Kan., died at the Grandview Sanitorium, Kansas City, Kan. July 3, 1923. He was taken suddenly ill May 27, 1923, and finally succumbed to a terminal pneumonia, and anuria.

Dr. Blasdell was born March 4, 1872, in Dearborn County, Indiana, graduated from the Kansas City Medical College in 1898. Ever since his graduation he has been in the active practice of medicine. First locating at Haven, Kan., later to move to Garnett, Kan., finally coming to Hutchinson, Kan., where he practiced the last seven years preceding his death. He took a very active interest in organized medicine. He was a member of the American Medical Association, served at different times as President of the Anderson County Medical Society, Vice President to the Kansas State Medical Society, Councillor to the Seventh District, etc. At the time of his death he was president of the Reno County Medical Society, and Councillor to the Fifth district of the State Society.

His only interest was medicine. He was an honorable, ethical physician who sacrificed himself on the altar of his profession.

He leaves a wife, and one son. The son was educated in medicine by him and will carry on for him.

Edward Parker Pitts, Atchison, aged 43, was instantly killed, June 14, in an automobile accident while en route to San Francisco to attend the session of the American Medical Association. He was graduated from the Ensworth Medical College, St. Louis, in 1902. He was eye, ear, nose and throat specialist to the Missouri Pacific Railroad and the State Orphan's Home. He was a member of the Kansas Medical Society.

Samuel M. Riggs, Muscotah, aged 69, died May 28 at the Christian Hospital, Kansas City, Mo., of acute edema of the lungs and influenza. He was graduated from the Eclectic Medical Institute, Cincinnati, in 1874.

Albert C. Dillon, Osborne, aged 73, died June 2. He was a graduate of Cleveland Medical College in 1869. He was a Civil war veteran and a member of the Kansas Medical Society.

Joel T. Tinder, Parsons, aged 78, died June 23 at the Mercy Hospital of paralysis. He was graduated from Central College of Physicians and Surgeons, Indianapolis, in 1883.

Frederick D. Grant Harvey, Lawrence, aged 57, died May 25 at the Wheatley-Provident Hospital, Kansas City, Mo., of heart disease. He was graduated from the Meharry Medical College, Nashville, Tenn., in 1892. He was a member of the Kansas Medical Society.

Gleim E. Mowery, Salina, aged 30, was killed in an automobile accident near Wichita, July 22. Dr. Mowery was graduated from the Kansas University School of Medicine in 1920. He was a member of the Kansas Medical Society.

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BOOKS

Tonsillectomy by means of the alveolar eminence of the mandible and a guillotine, with a review of the collateral issues, by Greenfield Sluder, M.D., Clinical Professor and Director of the Department of Rhinology, Laryngology and Otology, Washington University. Published by C. V. Mosby Co., St. Louis. Price \$5.00.

This book is intended to present the "Sluder Operation" with the anatomical and physiological relations. The descriptive matter is complete, the technique of the operation very clearly described, and the illustrations instructive. One method of removing tonsils constitutes a subject of lesser magnitude than usually justifies the writing of a book, but the author has devoted considerable space to the discussion of collateral issues.

The Tonsils, Faucial, Lingual and Pharyngeal, with some accounts of the posterior and lateral pharyngeal nodules by Harry A. Barnes, M.D., Instructor in Laryngology, Harvard Medical School. Second edition. Published by C. V. Mosby Co., St. Louis.

Considerable new interest in the tonsils has been aroused since the first edition of this book was written. Some new facts have been demonstrated and several new operations have been suggested. The author has endeavored to bring the work up to date.

Epidemiology and Public Health, Vol. II, by Victor C. Vaughan, M.D., assisted by Henry F. Vaughan, M.S., D.P.H., and Geo. T. Palmer, M.D., D.P.H. Published by C. V. Mosby Co., St. Louis. Price \$9.00.

In this volume the author discusses nutritional disorders, alimentary infections and percutaneous infections. Under the first head are very elaborate discussions on scurvy, beriberi, pelagra, rachitis, endemic goitre and cretinism. The second volume of this extensive

work fully justifies the favorable opinion given on the appearance of the first volume.

Cerebrospinal Fluid in Health and Disease by Abraham Levinson, M.D., Associate in Pediatrics, Northwestern University Medical School, with a foreword by David Hektoen, M.D. Second edition. Published by C. V. Mosby Co., St. Louis. Price \$5.00.

The steadily growing importance of the cerebrospinal fluid in diagnosis and the extensive researches conducted by the author justify the revision which has now been completed by this work. Many additional data have been added and some changes have been made.

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Medical Women's National Association

The Ninth Annual Meeting of the Medical Women's National Association was held in San Francisco, June 25 and 26, in conjunction with the American Medical Association meetings. Dr. Grace N. Kimball, President; Dr. Kate Campbell Mead, President-elect. At the open session, Monday evening, Dr. Ray Lyman Wilbur, President-Elect of the A. M. A., delivered an eloquent and inspiring address on the "Power of the Minority".

At the open session, Tuesday morning, a five year program was presented by the Executive Committee and Council, and was adopted. This program is under five heads:

1. Continuation of the work of the Committee on Medical Service, American Women's Hospitals; Dr. Esther P. Lovejoy, Chairman, 637 Madison Ave., New York.
2. Federation of Medical Women's Organizations with the Medical Women's National Association, under Organization Committee; Gertrude A. Walker, Chairman, Whitefield, N. H.
3. Public Health, co-operating with A. M. A. Council on Health and Public Instruction, Hygiene, and Women's Foundation for Health, etc., Dr. Elizabeth B. Thelberg, Chairman, Vassar College, Poughkeepsie, N. Y.
4. Committee for Medical Opportunities for Women, Dr. Sue Radcliff, Chairman, 21 Morris St., Yonkers, N. Y. Internships for young Graduate-Members of the M. W. N. A., in Hospitals conducted by the American Women's Hospitals in U. S. A., as well as opportunities for private practice, Service on Boards of Health, Government Appointments, etc.
5. Publicity for the Medical Women's National Association through the Bulletin and an Editorial Staff, consisting of the President and Executive Committee, President-Elect and an Editor-in-Chief. Dr. Grace N.

Kimball, Poughkeepsie, N. Y., was appointed Editor-in-Chief.

The Bulletin, which was published quarterly last year, will be continued as the official organ of the Association and sent to all members of the M. W. N. A.

An amendment to the Constitution was passed, providing for Group Membership. This was in response to proposals for Federation made last year by certain State Societies of Medical Women.

Under the Group Membership amendment, organizations of women whose basis of membership conforms to that of the M. W. N. A., viz., Membership in the A. M. A., may join the National as Group Members:

Kansas State Medical Women's Society.

New York State Medical Women's Society.

Connecticut State Medical Woman's Society

Portland, Ore. State Medical Women's Club affiliated through their representatives at the San Francisco meeting.

The Nebraska, Los Angeles and New England Medical Women's societies signified their desire to take action regarding affiliation.

The M. W. N. A. had a most interesting exhibit. Booth E of the A. M. A., Scientific and Educational Exhibits, showing the work of the American Women's Hospitals in Greece and Serbia. Twenty hospitals and a large number of dispensaries are being run by this committee of the M. W. N. A. in Greece alone, under the directorship of Dr. Mabel Elliott, New York headquarters, 637 Madison Ave., New York; Dr. Esther P. Lovejoy, Executive Secretary.

Four periods on the A. M. A. Moving Picture theater were assigned to the National—a film of Work in Greece, Crete and the Quarantine Work on Macronesi Islands, shown by Esther P. Lovejoy; and slides of Hospital and Surgical Work in Serbia, under Dr. Etta Gray.

Dr. Kate Campbell Mead, of Middletown, Conn., was installed as president. Dr. Katherine C. Manion, of Port Huron, Mich., was chosen president-elect.

The following officers and councilors were elected: First Vice President, Dr. Martha Welpton, San Diego; Second Vice President, Dr. Marjory J. Potter, San Diego; Third Vice President, Dr. Florence W. Duckering, Boston, Mass.; Secretary, Dr. Jessie W. Fisher, Middletown, Conn.; Treasurer, Dr. L. Rosa H. Gantt, Spartanburg, S. C.

The 1924 Annual Meeting of the Medical Women's National Association will be held in Chicago, Ill.

The Prevention of Rabies

Dr. J. G. Cumming, formerly of Ann Arbor, Mich., has subjected rabies vaccine to certain manipulations which it is claimed, make it perfectly safe in the hands of any physician, without in the least degree impairing its effectiveness. In fact, we are told that the Cumming vaccine (made from the brain of rabid animals) is more active, confers immunity more rapidly, than the desiccated cord with which the classic Pasteur treatment is performed.

Rabies Vaccine (Cumming) is supplied by Parke, Davis & Co. in packages of seven doses, three such packages for a complete series of 21 daily injections, or two packages (14 doses) in cases of slight wounds on the lower limbs. The vaccine is shipped in installments to minimize the risk of exposure to high temperatures.

Parke, Davis & Co. have a booklet on Rabies Vaccine which they offer to all medical inquirers free.

Gain in Expectation of Life in the United States During 1921

The mortality rate among the population of the United States Registration States during 1921 was the lowest, and the expectation of life the greatest on record. At birth, the expected after-life span was 58.01 years, an increase of three and one-third years over the figure prevailing in 1920. The significance of the extraordinarily favorable health conditions prevailing in that year will be seen by comparing this gain in expectancy within one calendar year with the gain of two and three-fourth years in the decade 1910-1920. The average life-span was extended more during 1921 than during the whole of the preceding ten years!

Among males, the gain in the expectation at birth during 1921 was greater than for females. The male population of the United States showed an increase of 4.11 years in the life-span as compared with a gain of 3.99 years for females.

Gains in life expectancy were most pronounced at the younger ages. From ages 7 to 12, the increase was 2.19 year. Even up to age 17, the life-span was lengthened more than two years over the figures prevailing in 1920. The more favorable balance of added years of after-lifetime among males than among females at birth resulted almost entirely from the more rapid decline of the infant death rate for males. After infancy, females in the population showed a greater gain in life expectancy, except, at the most advanced ages.

In making any analysis or interpretation of the life expectations of 1921 and 1920 it should always be remembered that each set of figures relates to a *single year only*. Hence they are merely descriptive of the effect on the expectation of life of the public health record of each of these years. They indicate how considerable will be the addition to the life span in the present decade if the decline in the death rate continues. The 1922 health record was almost as good as that for 1921; and present indications are that 1923 will actually show improvement over 1922; it may even excel the 1921 record which was the best ever registered. (Bulletin Met. Life Ins. Co.)

Calcium Therapy in Tuberculosis

From a review of the literature, Maver and Wells concluded that there is no convincing clinical evidence of the value of calcium administration in tuberculosis. They believe that that no deficiency in blood calcium exists in tuberculous patients. From carefully controlled animal experiments these investigators conclude that calcium administration does not affect the course of tuberculosis in animals. If the use of calcium compounds in the treatment of tuberculosis is to be continued, clinical experiments of a scientific character should be conducted. At the present time there appears to be no scientific basis for the use of calcium in tuberculosis. (Jour. A. M. A., June 2, '23.)

Progress and Conservatism in Therapeutics

The Committee on Therapeutics of the Council on Pharmacy and Chemistry has published a communication calling attention to two books which physicians should have—New and Nonofficial Remedies and Useful Drugs. It is explained by the committee that for eighteen years the Council has done its utmost to bring before the medical profession the truth concerning the new proprietary medicinal preparations which are being offered to the profession. The work and functions of the Council are discussed, and it is explained that while the Council was organized primarily to put a stop to the exploitation of proprietary medicines under false claims and the use of secret preparations, its activities have broadened until its work may now be characterized as a "propaganda for the rational use of drugs". The communication concludes: "New and Nonofficial Remedies" and "Useful Drugs" together furnish information concerning all drugs, old and new, which are at present essential to, or give promise of value in, the practice of medicine. They have been compiled with a special ob-

ject in view, namely, to meet the needs of the student and practitioner of today. The report is signed by C. W. Edmunds, M. D., Professor of Materia Medica and Therapeutics, University of Michigan, Ann Arbor, Mich.; John Howland, M. D., Professor of Pediatrics, Johns Hopkins University, Department of Medicine, Baltimore, Md.; Ernest E. Irons, M. D., Ph. D., Associate Professor of Medicine, Rush Medical College, Chicago, Ill.; W. T. Longcope, A. B., M. D., Professor of Medicine, Johns Hopkins University Department of Medicine, Baltimore, Md.; G. W. McCoy, M. D., Director Hygienic Laboratory, U. S. Public Health Service, Washington, D. C.; W. W. Palmer, B. S., M. D., Bard Professor of Medicine, College of Physicians and Surgeons, Columbia University, New York City; Francis W. Peabody, M. D., Professor of Medicine, Medical School of Harvard University, Boston, Mass.; L. G. Rowntree, M. D., Sc. D., Professor of Medicine, Mayo Foundation, Rochester, Minn. (JOUR. A. M. A., June 2, 1923, p. 1635).

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Determination of Carbon Monoxide in Blood and Air

The pyrotannic acid method for the quantitative determination of carbon monoxide in blood and air is described in serial 2486, just issued by the Department of the Interior, through the Bureau of Mines. In the treatment of any illness the early diagnosis is of very great importance. This is especially true in cases of carbon monoxide poisoning, whether acute or sub-acute in character. A diagnosis of carbon monoxide poisoning is usually made from a correlation of the history, the possible place of exposure, and the symptoms produced. This, however, is not positive evidence because carbon monoxide often is present in unsuspected places and can be absent in suspected places. Also, the symptoms of this type of poisoning are common to other causes. In many such cases the correct diagnosis may be very difficult, if not impossible, by this method and as a result little or no treatment is given. Sub-acute cases, those in which the subject is exposed to concentration sufficient to cause only headaches, malaise, feeling of weakness and dizziness, may be incorrectly diagnosed and as a result, improperly treated. Probably the best method of diagnosis is by examination of the subject's blood. Many methods for the detection of carbon monoxide in the blood have been developed, but owing to their various individual disadvantages have never come into common usage. Some of the quantitative methods are satisfactory with regard to accuracy but require elaborate and expensive apparatus, special

technique and training, or are too delicate and cumbersome for field use.

It is of vital importance in all industrial and domestic accidents occurring at places where carbon monoxide might be suspected or where the symptoms are typical of carbon monoxide poisoning that a qualitative and preferably a quantitative determination be made (the extent of poisoning being of importance in deciding whether carbon monoxide was the direct or contributory cause) to show the presence of absence of carbon monoxide was the direct or contributory cause) to standpoint as it aids in prescribing treatment and from a legal standpoint to insure justice in the claims that are often unjustly decided for want of positive evidence.

In view of these facts an apparatus has been designed by technologists of the Department of the Interior, Bureau of Mines, which gives accurate results in the field and laboratory, yet it is compact and durable, and sufficiently simple in operation to be used without special training. By use of the method described in Serial 2486, it is possible to detect the presence of carbon monoxide in the blood in 3 minutes and to determine the exact amount present within 15 minutes, and on the basis of these findings, treatment may be administered. The method and apparatus should fulfill the needs of hospitals, industrial surgeons, safety engineers, coroners, departments of public safety, boards of health, and other allied organizations.

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Clinical Tetany by Forced Respiration

Alfred Goldman, J. A. M. A., April 22, 1922.

In a previous paper it was shown that all the essential symptoms of tetany could be produced in the human subject by voluntary forced respiration. So far as is known, there are no reported cases of tetany due to accidental or involuntary overventilation. Goldman reports 11 cases of tetany occurring under various conditions and during various diseases, but all due to forced respiration. Case 1 is of particular interest because of the observation by the patient himself that overventilation with resultant spasticity distinctly lessened his pain. Case 2 is of interest because of the association of distinct stomach symptoms with overrespiration and tetany. Cases 3 and 5 were both of hysterical subjects. Abnormalities of respiration are well-known symptoms of hysteria. Overrespiration may occur in a large number of conditions. One may be certain that at least some of the cases of "hysterical pseudotetany" are undoubtedly real cases of tetany due to overrespiration. Overbreathing sufficient to produce alkalosis

and tetany may occur during an acute disease, such as cholecystitis or influenza; in hysteria and gastric disorders; during and following physical exertion, and possibly during early anesthesia. Tetany resulting from forced respiration produces hypesthesia to pain. The type of breathing in all cases of tetany should be carefully observed. (International Med. and Sur. Sur., June, '23).

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An Appeal for Information on Maternal Welfare

The Committee on Maternal Welfare of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons is anxious to procure accurate information as to the progress which each State is making in the matter of Maternal Welfare in order to formulate a report for our annual meeting in Philadelphia, in September.

A preliminary program was published in the issue of the American Journal of Obstetrics and Gynecology for June, 1923, which it is hoped may be a suggestion of an outline for National work among all organizations which have a common basic line of endeavor including Medical Societies, Departments of Health, and Commissions of Social Workers.

We shall be under many obligations if you will be kind enough to send at your early convenience a brief synopsis of the results accomplished in your State and most important if possible a contrast of the record of the clinics or regions where patients have been privileged to have pre-natal care with the statistics of the community in general where no supervision has been afforded the prospective mothers.

These it is planned to have incorporated into the completed survey to be presented to the Association and to be published in the Annual Transactions later on.

Dr. Henry Schwarz, St. Louis,

Dr. George W. Kosmak, New York City,

Dr. George Clark Mosher, Chairman,
Kansas City.

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Methods for Determining Ozone in Air

In the past few years the question of utilizing ozone for purifying air in ventilation of buildings, and also the air of refrigerating plants, has been receiving much attention. Ozone is a rare gas, with active oxidizing powers, and engineers see great possibilities in its use for purifying of air used in ventilating public buildings, to remove odors and destroy bacteria. Its use has also been proposed for bleaching textiles and sterilizing them. The Department of the Interior, through the Bureau of Mines, is cooperating

with the Society of Heating and Ventilating Engineers in four important problems: (1) Methods for quantitative determination of ozone and oxides of nitrogen in ozonized air; (2) Amount of concentration that will produce the desired results, and the limiting amounts permissible to breathe without harmful effects; (3) Tests of ventilation systems using ozonized air; and (4) Use of ozone in connection with re-circulation of air in buildings. The Department of Interior, through the Bureau of Mines, has worked out a method for determining oxides of nitrogen produced by ozone apparatus, by which it was shown that these oxides were not produced in harmful amounts in ventilation apparatus.

—R—

More Research in Tuberculosis

Dr. Lawrason Brown's presidential address struck a sympathetic chord when he reminded us that one of the greatest needs of the campaign against tuberculosis, is more extensive research for the purpose of securing a positive cure for the disease. "The long search and the scantiness of financial reward have discouraged many brilliant scientists from entering the tuberculosis field. A complete eradication of tuberculosis must follow along one of two lines. First, by vaccination or by some other method of treatment which is as successful as the administering of quinine in malaria must be discovered. Another possibility is that pulmonary tuberculosis, like leprosy and typhus, will gradually recede until in countries with a high hygienic civilization it will be of slight importance. At the present time public education in disease prevention, increased sanatorium facilities, and adequate after-care in order to prevent a relapse, are the best available means of still further reducing the mortality and case rates." (Bul. N. T. A.)

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Subcutaneous Implantation of the Human Ovum

George L. Streeter, Baltimore (Journal A. M. A., April 7, 1923), relates the case of a woman, aged 25, who exhibited a mass the size of a cherry at the upper end of a scar from a previous operation. A provisional diagnosis of wound-hernia was made. Two weeks later, the swelling had doubled in size, and on account of its rapid growth an exploratory examination was decided on. By that time the enlargement had reached the size of a hen's egg. Operation disclosed, just beneath the skin, embedded in the superficial fascia, a relatively thin-walled and partially transparent cyst, which on removal proved to be an intact chorionic sac, and on being opened was found to contain a well-formed

embryo. No opening through the deep fascia or connection with the abdomen could be found. Nor was there any enveloping capsule or any structure other than is normally present in the abdominal fascia, although there seemed to be some enlargement of the blood vessels leading to the area of implantation. On searching for an explanation as to how the ovum was able to reach this site, it was learned that two years previously another surgeon had performed a ventral fixation of the uterus, adopting the procedure in which the round ligaments are pulled through the rectus muscles. As it is possible to mistake the fallopian tube for the round ligament, it is supposed by Streeter that either this mistake was made or that the tube was drawn through the rectus muscle along with the round ligament. He asserts that no case has ever before been reported in which the human ovum became implanted and underwent development entirely outside the abdominal cavity, as happened in the instance described.

B

A study of Light Waves in Their Relation to Rickets

Recent investigation has established the fact that white rats can be regularly protected against rickets by means of sunlight or artificial rays produced by the mercury vapor quartz or carbon arc lamp. Alfred F. Hess and Mildred Weinstock, New York (Journal A. M. A., March 10, 1923), have attempted a closer analysis of the spectrum in order to ascertain more precisely which waves exert this remarkable protective action. These experiments showed that in order to be of value in rickets, ultraviolet waves must have a wave length not longer than 302 or possibly 313 millimicrons. This renders light that has passed through ordinary window glass of no therapeutic value in this disorder. The experiments serve to emphasize the remarkable specificity of wave lengths of light in relation to rickets. Waves of 324 millimicrons in length have little or no value in protecting against rickets, and waves of 302 millimicrons are of great value in this respect. This signifies that a difference of about thirty millionths of a millimeter in wave length suffices to render ultraviolet light effective or ineffective. The experiments also indicate that the rays do not have to impinge directly on the surface of the skin. Clothing must be regarded as other filters which screen the effective rays, namely, according to their texture or thickness. Furthermore, a direct quantitative relationship exists between the nature of the material and the duration of exposure to sun's rays or artificial sources of

light. Black clothing will absorb more of the effective ultraviolet rays than similar white material. The spectrum would seem to contain not only rays which can prevent or cure rickets, but also longer rays which are able to neutralize or inhibit the effect of these beneficent radiations. This phenomenon points to the need and the value of an analysis of rays employed in heliotherapy in rickets, tuberculosis and other diseases. It would seem to indicate that this valuable therapeutic agent will be used with the employment of filters to absorb radiations which may be not only ineffective but also disturbing.

B

Defective Diet As a Cause of Sterility

The theorem advanced by Donald Macomber, Boston (Journal A. M. A., April 7, 1923), is that the fertility of a mating could be expressed as the product of the fertility of the individuals concerned, and that if this mating fertility is below a certain level, which is termed the threshold for reproduction, no young would result, but that if it was above this level the mating would be positive. The nature of the diet had a distinct bearing on fertility. The effect of diet on inbred animals was to reduce fertility, and to increase the amount of sterility. The kind of dietary deficiency is not important. It seems rather to be the degree, since the greater the deficiency, the larger the proportion of sterility. The way in which the diet seems to affect sterility is through its general effect on the health of the individuals. The less the effect on health, the less on the average the effect on fertility. There may be great individual variation in fertilities. Such variation is increased by inbreeding and by deficient diet. When the variation is great, the amount of sterility is also great. There are individuals whose fertility is so low that they are unable to reproduce with one another, but whose fertility remains sufficiently high to allow immediate and successful reproduction with highly fertile individuals.

B

Time Required for Disappearance of Intradermally injected Salt Solutions

If 0.2 c. c. of an 0.8 per cent aqueous solution of sodium chlorid is injected intracutaneously in a normal child, a circumscribed snow-white elevation, in which the pores are accentuated, is immediately produced at the point of injection. Although the extreme whiteness disappears in from one half to one

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Treatment of Eclampsia.

Dr. H. M. GLOVER, Newton

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Eclampsia is a pathological complication encountered occasionally in pregnancy, labor, or the puerperium. DeLee calls it a toxemia of pregnancy, and lays great stress on its relation to other toxemias of pregnancy, such as hyperemesis gravidarum, acute yellow atrophy of the liver, and psychoses of pregnancy. The exact cause of these conditions is still unknown, although various theories are advanced which are plausible. It is quite generally believed that the mild kidney disturbances seen so often in our pregnancy cases, are themselves mild manifestations of a pre-eclamptic state. Most of these cases proceed to term, needing only a little advice as to diet and hygiene in order to avert the impending disaster.

Most authors state that the condition can usually be recognized before convulsions occur, but this has not been my experience. Some of my hearers might suggest this has been due to a lack of observation on my part. I will agree that more regular urine examinations would probably have been helpful, but there are many patients who do not heed the physicians instructions about regularly bringing in samples of urine. Many of them do not desire and are not willing to pay for the careful attention that should be given to a parturient. Two of the cases which I shall describe were not seen by me until they were in labor, and the convulsion was the first intimation I had of the existence of the toxemic condition. I believe it would be a step of practical importance if every physician would make it a rule to secure an immediate determination of the blood pressure in every case of pregnancy showing edema and albumin in the urine.

I shall not go into the prophylactic treatment of eclampsia, since it consists largely in proper observation of the recognized rules of hygiene of pregnancy. Since there is no marked line between cases of eclampsia which have not had a convulsion, and other toxemic conditions which frequently occur in pregnancy, I shall discuss the treatment of that class of cases which have had at least one convulsion prior to delivery of the child.

Then we know we have an undoubted case of eclampsia and that our decision as to procedure must be arrived at without delay, and that it must be correct, as two lives hang in the balance.

In the treatment of active eclampsia, one may proceed along either one of two lines of treatment. Either the conservative and expectant method may be chosen or the rapid, more radical method. If the patient is in poor surroundings, with few modern conveniences, and insufficient help is available, the physician is perhaps justified in deciding on conservative measures. This is especially so if dilatation is well started and a fairly early termination of labor is probable. In such a case, dilatation should be assisted manually, and the membranes ruptured at once. As soon as dilatation is complete, use forceps, if practical, or if not, do a version and extraction. It is very probable that morphine and ether are as harmful as the convulsions and should be omitted, or at least used very sparingly. Do not attempt to give ether during the convulsions; it will not ease them and will merely increase the cyanosis. Chloroform should never be used. If oxygen is available, it should be administered during and after each convulsion to shorten the period of cyanosis. Soon after the placenta is delivered it is well to administer jalap or salines to flush the bowels thoroughly, and without waiting for their action, give a thorough soap-suds enema. For the next few days I think it is wise to give alkaline fluid by the mouth or per rectum at frequent intervals. Veratrine may be employed to bring the pulse down. If the patient lost very little blood at the delivery, it may be wise to do a venesection and withdraw a pint of blood, unless the patient is pallid and has a weak running pulse. This not only withdraws some poison from the system directly but also favors diuresis and diaphoresis.

In cases at or near term in which there have been no labor pains, or in which the cervix is still tightly closed, at the time of the first convulsion, delivery must be accomplished more rapidly than it would occur in the regular course of labor, especially if the patient is a primipara. If the child is alive, as evidenced by fetal heart tones or movements, and there are no contraindications, I

favor abdominal cesarean section as the procedure of choice, since the mortality for the mother from this operation is no greater than that of eclampsia, handled by the expectant method, and the mortality of the child is much less. It should be done at the earliest possible moment and the after-treatment employed as stated above. Ether should be the anesthetic of choice.

There are many cases which do not fit into either class mentioned. It is these cases occupying the middle ground, that cause the obstetrician the greatest worry. He perhaps feels that the labor has progressed far enough that he is not justified in advising abdominal cesarean section, and yet he has misgivings when he thinks of all the convulsions which are apt to occur if he permits much delay. And, to add to the gravity of the situation, he realizes that the case before him is one of a condition showing a mortality of ten per cent for the mother and sixty per cent for the babe.

I now wish to cite several cases of eclampsia that I have encountered in the last couple of years.

Case 1. Mrs. M. Age 25 years. Has had one pregnancy two years ago. Normal labor and normal puerperium. Child living and well. Patient's health has always been good. No medical supervision until attack began.

I was called to the home about 8 a. m. and received the following statement of facts from the patient. She menstruated last just eight months ago. Has been perfectly well until this morning at 3:00 a. m. when she awakened with severe headache, nausea and vomiting, and pain in the epigastrium. I took her blood pressure which was S. 210 and D. 115, and the urine showed four plus albumin, with many granular casts and some red blood cells. She declined to come to the hospital, so I administered $1\frac{1}{2}$ ounces of castor oil and one of the relatives gave an enema. I also gave 1-6 morphine and atropine hypodermically. I saw her several times in the course of the morning and she had her first convulsion at 11 a. m. I got there while she was still in the convulsion, but did nothing more than protect her tongue with a clothespin. Her bowels moved freely a half hour later and several times later in the day. I ordered hot soda water every hour. Her second convulsion occurred at 1:30 p. m. I attempted to control it with ether by the drop method, and could not see that it was of any help. There had been no pains up to this time, and pelvic examination showed the cervix lacerated and thick, and admitting one finger, with which the membranes could be felt. I called one of my associates down

to see her and he confirmed my findings and concurred in my decision to attempt some manual dilatation. We spent about an hour dilating the cervix to the size of a half dollar, and then packed the cervix and vagina with sterile gauze. She had her third convulsion at 2:30 p. m. At 7:15 p. m. patient consented to enter the hospital. She was put to bed and slept all night. She was given one ounce of magnesium sulphate the next morning and kept on a liquid diet. The packing came out at noon. She felt so well that afternoon that she and her husband insisted on her returning home, which she did. There were no more convulsions. Patient was kept well purged with magnesium sulphate. The blood pressure and urine findings continued about the same. She returned two days later in active labor, with blood pressure and urine findings unchanged, and had a normal spontaneous delivery. A five pound male child was delivered dead. I had been unable to hear heart tones at any time. The patient reported she had not noticed the baby's movements for several days prior to her attack. I would feel a little better about this case if I had not given the one hypodermic of morphine and had not used ether during the second and third convulsions. There was no laceration. The patient had a normal puerperium and went home on the 13th day, with a blood pressure of S. 130 and D. 90, and urine showing a trace of albumin. Her temperature never exceeded 100.4°. She was pregnant again in four months and was delivered of a healthy babe at term, with no complications from beginning to end.

Case 2. Miss H. Unmarried. Age 20 years. I had never seen her until I was called at six o'clock in the morning. Found her in labor and took her to the hospital. Good results from s. s. enema. Found dilatation size of a dime. No urinalysis was made, as urine was contaminated by vaginal discharge, and I suspected no trouble. Two hours later, at 10 a. m. dilatation was the size of a dollar and membranes bulging. Cephalic presentation. F. H. T. 132. At 2:10 p. m. dilatation was complete and membranes bulging. Pains were good. I ruptured the membranes with a forcep. Within five minutes the patient had first convulsion, lasting two minutes. Five minutes after convulsion F. H. T. were 144 and patient's blood pressure was S. 170 and D. 100. I called an associate to assist, and axis traction forceps were applied and female child weighing $7\frac{1}{2}$ lbs. was delivered twenty minutes later. There was a second degree laceration which was repaired at once with three S. W. G. sutures. Placenta came

normally. As soon as patient was back in her room and conscious, one ounce of castor oil was given, from which there were good results in the night. Then magnesium sulphate was given regularly until her condition improved. Patient had a second convulsion twelve hours after birth of child, and a third two hours after the second. Fourth convulsion at end of 24 hours, and fifth convulsion on fourth day after delivery, following a massage of the breasts which caused some pain. Sixth convulsion on the fifth day, after massage of breasts. No further breast massage was done and there were no more convulsions. Now during all this time patient was in coma a part of the time. When conscious she complained of her head continually. Her blood pressure ran from S. 170 and D. 100 just before delivery, to S. 148 and D. 90 on the 21st day. Her temperature never exceeded 101.4°. After delivery a catheterized specimen showed double plus albumin and many granular casts. She made a very slow recovery and was dismissed on her 23rd day still showing 99 degrees every day, and very weak and emaciated. The child was adopted and is strong and well. The mother is still frail two years after this illness.

Case 3. This case was under medical supervision throughout her pregnancy, and the urinalysis done eight days prior to the onset of symptoms showed no albumin nor casts; patient felt well, looked well and had no edema. She was a primipara, 21 years old. Had trouble with constipation and headache throughout pregnancy. I was called to the home ten miles in the country one morning at six o'clock. Her husband, told me, over the phone, that she had begun to feel bad the day before, with pain in her stomach and headache and her legs began to swell. She was sick all night and discovered about 4:00 a. m. that she couldn't see anything. I hurried out to see her and she had her first convulsion as I entered the house. There had been no labor pains and there was no dilatation whatever. F. H. T. were 160. I gave 1-6 morphine and atropine per hypodermic and got her on to the back seat of my car and brought her to the hospital. She had her second convulsion on the way to town, and a third soon after we reached the hospital. Pelvic measurements were 32-26-24-17. I advised abdominal cesarean section, which was done at 4:00 p. m. Patient had two more convulsions in the afternoon prior to operation, making five in all. Soon after reaching the hospital blood pressure was S. 160 and D. 110. Urine showed four plus albumin and many granular casts. Both mother and babe did well. Mother had no fever after 9th day; it reached 101.6° on

the 3rd day. Removed stitches on the 13th day and wound was perfectly healed. Patient was on back rest on 14th day and went home on 23rd day in fine condition, and nursing her baby. The baby is one year old now and both are well and strong.

Case 4. A multipara, 24 years old, who has had three normal deliveries prior to this one. Entered with history of having had three convulsions prior to entering the hospital. Dilatation was almost complete. Axis traction forceps were applied, and child delivered after an hour's effort. Patient had three more convulsions during delivery. Baby lived. Mother had convulsions at intervals until third day. Total number nineteen. Patient in coma most of time from fourth to sixth day. More rational after that but headache persisted until the 21st day. Temperature reached 102.8° on 4th day. Blood pressure on day of delivery was S. 140 and D. 85, and on day before dismissed S. 120 and D. 80. Urine showed three plus albumin and many granular casts on the day of delivery. It showed only a trace of albumin and no casts when patient was dismissed on the 23rd day.

This completes my cases. Since only one pregnancy case in every 600 has eclampsia, the average physician is not going to have many of them. When he finds one, he had best call in a consultant, for bad results are apt to follow even the most expert care. I got absolutely the best result in the case which I handled by abdominal cesarean section and if I had handled Case No. 1 the same way, I have the feeling that I might have saved the baby. In the other two cases, cesarean was not indicated as labor had progressed too far, so I feel that they were handled properly and as well as possible.

DISCUSSION OPENED BY DR. GEORGE CLARK
MOSHER, KANSAS CITY, MO.

The paper of Dr. Glover is most interesting since he has so clearly given his history of the eclampsia as a general manifestation of the toxemia of pregnancy, in terms familiar to the careful observer, and he has also met the indications that arose in these cases in a manner that the result was satisfactory to the attendant as well as the patient.

As an addition to the discussion of the subject I should think to add in emphasis to one outstanding factor in these alarming conditions a note of warning that the increase of the blood pressure is often the first indication of the disease. This may be overlooked unless one is constantly on the alert for danger signals.

In a paper which I had the honor to read before this society several years ago I called attention to the theory of Fisher as to the

fact of the retention of salt as the cause of edema and thus being a reason for the rise of blood pressure. Our subsequent observations have confirmed this theory in our opinion.

In order to study the subject of eclampsia it may be divided into 3 classes. 1. Those women who are previously healthy before the pregnancy, in who edema may be demonstrated by weighing, and this before any other untoward symptoms are apparent. Blood pressure is a measure of threatened eclampsia. (Eclampsia is to be prevented by a salt free diet, and not by a milk diet.) 2. Cases of chronic kidney disease, or latent nephritis, which result in hypertension. In the second half of pregnancy increased blood pressure, headache, vomiting, albumin, visual disturbances and psychoses are developed in this type of toxæmia. Marked increase in the blood pressure indicates the danger of eclampsia. Uraemic eclampsia may recur in later pregnancy but true eclampsia of pregnancy is generally a disease of the primipara, and not as a rule encountered in a subsequent case of pregnancy. 3. Certain women of primary high tension when not pregnant whose high blood pressure may lead to disaster when they become enciente are those in whom the high blood pressure leads to hemorrhages into the placenta, to placental absorption and then eclampsia. These women are predisposed to apoplexy, heart exhaustion, the formation of placental infarcts, and thus disaster to the fetus results from the mechanical disturbances.

It is the prevailing belief that rest and the salt free diet are to be relied upon as the sheet anchors in such cases.

In brief the treatment of eclampsia is comprised, as the doctor says, in a few measures which have stood the test of time. These are plenty of fluids, sweating, veratrum, viride, magnesium sulphate and the chief reliance, morphine. Mechanically the means of reliance are lavage and colonic flushing. These should always be kept in mind.

When the uterus can be emptied without too much traumatism or delay this is undoubtedly the proper proceeding to be adopted. This may involve the consideration of a bag induction, a forceps delivery, or in the case of a primipara in convulsions with a rigid cervix undilated, cesarean section is to be recommended, provided no unnecessary vaginal examination nor ineffectual attempts to deliver have been made. In such case most authorities advise a Porro or other hysterectomy.

I want to express my appreciation of the paper and to thank Dr. Glover for the priv-

ilege of opening the discussion of his scholarly argument. This sort of experience and the observation by the man in his clinical work is what constitutes the value in forming conclusions both as to diagnosis and treatment.

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Uni-Lateral Destruction of the Kidney.

ARTHUR D. GRAY, M.D., Topeka, Kansas

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Hydronephrosis, pyonephrosis and tuberculosis of the kidney are three rather common conditions which frequently result in either partial or complete destruction of the organ.

I would like to present to you several brief case histories, each characteristic of one of the various types of these processes, together with some of the interesting points in their diagnosis.

Hydronephrosis, a dilation of the pelvis, calices and even of the ureter through some impediment to the urinary flow, may be caused by any obstruction either within or without the urinary tract. Whether it be the result of nephroptosis or movable kidney, stones within the urinary tract, malformations, strictures or kinks in the ureter, or what not, the one feature in common is the interference with the urinary drainage.

Case No. 1 is an example of hydronephrosis caused by movable kidney:

Mrs. O. J., a farmer's wife, age 33, was referred to me for cystoscopy. For 4 years she had had a dull dragging pain in the right side and for the last seven months a slightly movable tumor could be felt which had been diagnosed both as a floating kidney and ovarian cyst. She had always worked hard. She was the mother of three healthy children and she thinks that her first pain appeared shortly after the birth of her youngest child who was four years old. She said that she had never had any urinary symptoms except that if she worked on her knees in the garden or in scrubbing the floor she would void a good deal of urine.

The cystoscopic examination found a normal bladder. Both ureteral catheters passed easily. The flow from the left ureter was normal. From the right side there was a steady, continuous flow for six minutes after which it became intermittent. During the examination period of twenty minutes about seven times as much fluid was passed from the right side as from the left but the thalein was very slow in appearing and the total per cent was very low. More than normal, 35 per cent was secreted on the left side during the same length of time. The pyelogram

showed a low kidney with well advanced hydronephrosis. Sixty cc. of sodium iodide was injected before there was pain and the pain then produced was identical with that which the patient had suffered. Nephrectomy was done with recovery.

Case No. 2 is a beautiful example of hydronephrosis from kinked ureter:

Mrs. R., a farmer's wife, age 53, was admitted to Christ's Hospital, Topeka, April 15 of this year and was referred to me by Drs. Bowen and Miller. She was suffering with acute renal colic and an irregular temperature sometimes reaching one hundred and four degrees. About seven years ago she had had a familiar attack and after seven weeks at Hot Springs returned home, where with the exception of occasional attacks of bladder irritation she had remained quite well until her present trouble. The present attack had begun with an acute right renal colic and she stated that she had passed some fine gravel. She was cystoscoped April 17.

The ureters were catheterized after some difficulty due to an extensive exfoliative cystitis, the left catheter passing to the kidney and the right meeting with an obstruction just below the kidney pelvis. Much to our surprise the urine from both kidneys was microscopically clear. Twenty-five per cent of the thalein was secreted from the left kidney in 30 minutes but not a measureable amount from the right. While both specimens contained a small amount of pus and blood, the pyuria doubtless originated in the bladder. The pyelogram of the right kidney showed a kink in the ureter about two inches below the pelvis and a beginning hydronephrosis. On account of the bladder condition, the temperature and the absence of compensating function on the left side, operation has been deferred. Whether or not the loss of function on the right side is or is not permanent is at this time a matter of conjecture.

Hydronephrosis from stone in the ureter is present in Case No. 3.

A. J. S., an oil well driller, age 41, weight 240 pounds, came into a hospital with acute right renal colic. He had had many attacks within the last four years but never very severe. X-ray for stone was negative. He was cystoscoped without difficulty, the left catheter passed into the kidney and a 45 per cent thalein secretion was accomplished in 30 minutes. The right catheter met an obstruction when nearly to the kidney. There was practically no flow and no function from the right side. The pyelogram showed a constriction of the ureter at the point where the catheter had stopped with advanced hydro-

nephrosis of the ureter and the pelvis above this constriction. I have been advised that operation disclosed a small stone surrounded by a small mass of fibrous tissue at the point of constriction. Little was left of the kidney except a cystic sac and nephrectomy was performed.

Case No. 4 is one of total destruction of the kidney from hydronephrosis of unknown origin:

Paul B., a grocer, age 35, consulted an osteopath for pain in the left loin of about two months' duration and which distressed him more markedly when in a reclining posture. The osteopath called his attention to the fact that he had a mass in his side. He drifted to me and the cystoscopic examination revealed a blind ureter on the left side but a normal kidney on the right with a function of 45 per cent secretion of thalein in an observation period of 20 minutes. I recommended nephrectomy which was performed by Dr. W. M. Mills of Topeka. A huge thin walled cystic mass was uncovered which was so adherent to the surrounding tissue and the abdominal aorta that delivery in toto was impossible. No suggestion of kidney tissue was present in the sac which contained approximately 4 quarts of fluid. A stab drain was made through the flank and the wound closed. The patient is making excellent recovery.

Case No. 5 is one of hydronephrosis from adhesions or mal-formation of the ureter:

Mr. M., a musician, age 28, was referred to me by Dr. J. H. O'Connell, of Topeka, on account of a severe right renal colic. He had had two other attacks prior to the one in question and over a period of one month. These attacks had only lasted a few hours. There had been a little pyuria and some fever at each attack. Cystoscopy revealed a normal bladder. The left catheter passed easily to the pelvis but the right met an obstruction about 9 cm. above the os. The function was normal from both kidneys. The specimen from the left side was negative but there was a small amount of blood and pus from the right. The pyelogram shows a marked angulation of the ureter at the rim of the true pelvis with beginning hydronephrosis of the ureter and pelvis above this point.

Pyonephrosis, an accumulation of pus in the kidney pelvis or parenchyma with more or less destruction of the organ may be the end result of a simple pyelitis or perinephritis, especially when the products of inflammation or other factors constitute any obstruction to the urinary drainage. Stones in

the kidney have a strong, predisposing influence.

Case No. 6 is typical of the class in which stones are a marked factor if not the actual cause:

L. W., a farmer, age 33, had attacks of left renal colic for 3 years, the attacks usually lasting only a few hours and never more than one day. He had had an intermittent pyuria though there had been no especial connection between the pyuria and the colic. X-ray at this time showed a large stone in the left kidney. Cystoscopy was done and we found that the right kidney was normal with an excellent thalein secretion. Little fluid came through the left catheter, the drainage being almost too thick to pass through the lumen. No function could be demonstrated. The pyelogram was that of a large multilocular kidney and a stone in the same position as the first x-ray. The patient was operated with complete recovery.

In case No. 7 stone was not a complicating factor and the etiology was uncertain:

Mrs. E. C., white, age 47, and married, was referred to me by Dr. W. M. Mills. For twenty years she had had attacks of pain in the right side and loin associated with headache and vomiting of bile. In 1907 a diagnosis of chronic appendicitis was made and she was operated without any improvement in her symptoms. The attacks continued up to August 1, 1922, when she became very much worse and for 5 weeks ran an irregular high temperature and pyuria, a symptom which she had not had or which had not been recognized until this time. I cystoscoped her October 27, 1922, and found an absence of all function on the right side. The thalein function on the left side was 50 per cent which was considerably above normal for one kidney for the observation period of 30 minutes. Constant suction on the right catheter during the entire observation period failed to secure a specimen for examination. The pyelogram was that of a large multilocular kidney. She was operated on December 4th by Dr. Mills and a large adherent kidney removed. The calices were dilated and full of thick purulent urine and pus. The patient left the hospital in 11 days and with the exception of a slight occasional pyuria has made an uneventful recovery. She has had no return whatever of any of her old symptoms.

In case No. 8 position of the kidney may have been a factor:

Mr. F. A., banker, age 48, was referred to me by Drs. Bowen and Miller on account of an acute right kidney colic. For a year or two prior to his entrance to the hospital he had had occasional attacks of what had been

diagnosed as influenza or grippe. There had been no urinary symptoms except a mild pyuria from time to time. When I saw him he was extremely ill, was in exquisite pain and a temperature of 104.2 degress. It was necessary to keep him constantly under the influence of a narcotic. He was cystoscoped with normal findings and a 35 per cent thalein secretion on the right side during an observation period of 15 minutes. The left catheter passed with difficulty but finally reached the pelvis and delivered a steady flow of dark purulent urine filled with a brownish sediment. There was no function on the left side. On account of the patient's condition, a pyelogram was not made, but an x-ray taken with the catheters in place showed a low large kidney on the left side. On operation a large adherent, friable kidney was delivered which showed a markedly degenerated condition with cystic areas filled with pus. After a somewhat stormy recovery, the patient returned to perfect health.

The milliary type of tuberculosis of the kidney is almost always bi-lateral but this is not true of the caseo-cavernous form, which in the beginning is practically always unilateral as we know from clinical observation and post mortem records.

In Case No. 9 the symptoms were obscure and the history atypical:

L. W. P., male, age 52, a stone mason, was referred to me November 3, 1922, from the service of Dr. W. M. Mills at the Topeka Municipal Clinics. His first history dates back to 1918 when he passed a small stone and some blood. May, 1920, and again during the summer of 1921, he had attacks of gastric pain relieved by alkalies. In April, 1922, he again developed the gastric symptoms and an x-ray diagnosis at that time was of old duodenal ulcer without obstruction. When I saw him he had had for the past month his old symptoms but in addition had had a chill followed by cloudy, frequent urine. An x-ray at this time showed a stone, 17 by 9 mm. in the substance of the lower third of the left kidney. He had lost no weight, his appearance was fair, and he had no temperature. Cystoscopy revealed a very marked bulbous edema of the bladder wall, a typical tubercular bladder with total obscuring of the ureteral ora by the polypoid vegetations. It was impossible to catheterize the ureters and from the appearance of the bladder alone, a diagnosis of tuberculosis of the bladder and probably of the left kidney was made. A total function test made on the second day following cystoscopy was normal. Was operated by Dr. Mills on November 7, and a markedly tubercular kidney removed. The pathological report was that of an old

tuberculosis with almost total destruction of the kidney. The patient has done remarkably well and gained almost 30 pounds following operation.

Case No. 10 and the last, was seen in the urological service of Roosevelt Hospital, New York, and is interesting in that there were present practically no symptoms save one and that symptom being of prime importance in the diagnosis of tuberculosis of the urinary tract, namely, severe, periodic, irritation of the bladder.

Miss M., age 24, was sent down to the urological division for cystoscopy because of acute attacks of frequent, painful urination. These exacerbations had appeared every four or six weeks and lasted from only a few days to a month or more. She had no temperature, had lost no weight, and in every other way apparently perfectly well. There had been from time to time a slight pyuria and hematuria but the urine was negative during some of the worst attacks. When cystoscoped the bladder proved to be very irritable but a catheterization of the ureters was finally accomplished. The urine from the left side was clear, negative in every way and 40 per cent of thalein was secreted during the 20 minute period. The right specimen contained no thalein but both blood and pus were present. Acid fast bacilli were recovered from the centrifuged specimen. The polygram was that of a multilocular kidney with a capacity of 70 cc. The pathological findings of the kidney after removal was that of tuberculosis of the caseo-cavernous type.

In concluding, I would make one pertinent point demonstrated by these ten cases:

With the possible exception of the tubercular case last mentioned, Case No. 4, mammoth hydronephrosis of unknown origin, and Case No. 5, in which the condition has been recognized in time to prevent serious damage, diagnosis might have been made before marked destruction had taken place. When we remember that the histories in these seven remaining cases covered long periods of time, in one instance more than twenty years, the great value of early urological examination becomes self-evident.

—R— Arterial Hypertension

RALPH H. MAJOR, M.D.

Read at Atchison, Kansas, October 26, 1922, before the Northeastern Kansas Medical Society.

The immortal father of our science, Hippocrates, tells us in his aphorism that "life is short and the art is long, the occasion fleeting, experience often fallacious and judgment difficult." This statement, after a lapse of nearly 2500 years, still strikes us with its

truth in relation to medicine as a science, and to no domain of it with more force than that of kidney disease.

Hippocrates and his illustrious successors down through the ages were familiar with the large robust, full-blooded individuals in the prime of life, who, while apparently in the best of health, began gradually to develop a shortness of breath, oppression in the chest, swelling of the feet and abdomen, and then steadily went down to a premature grave. Every medical author of the past ages devoted much time to the discussion of these dropsies, and each had his own explanation of the phenomenon.

When we browse among the musty medical tomes of these ages, they seem to be filled almost entirely with the discussion of fever and dropsy. Truly the medical student of that age had to seek first the knowledge of fever and dropsy, and all other things were added unto him. And, as always happens, this flood of writing and discussion about dropsy burst through its medical dam and beyond into the lay world at large. We still see the result of this saturation, for the diagnosis of dropsy today is still quite as satisfying to the average layman, as the diagnosis of "mesaortitis productive syphilitica," or of "acute epidemic polio-meningo-myelo-encephalitis" is to the medical consultant.

It remained for the personal physician of Queen Victoria to demonstrate, by autopsy, that many of these cases of dropsy were associated with diseased kidneys, and this discovery of Richard Bright opened up a vast field for study, and linked his name forever with this disease complex.

The discovery of albumin and casts in the urine of these patients added fresh fuel to the flame of investigative enthusiasm. The perfection of the microscope and the development of laboratory technique led to an intensive study of the urine, and before long the physician felt that he no longer needed to so much as glance at his patient to diagnose his condition. Albumin and casts meant Bright's Disease, and the patient whose urine showed them was either given a most gloomy prognosis, or advised to call in his lawyer and make his last will and testament.

Dr. Osler, in his brilliant medical essay with the rather paradoxical title "On the Advantages of a Trace of Albumin, and a Few Tube Casts in the Urine of Certain Men Above Fifty Years of Age," published in 1901, relates the following: "In the cathedral at Antwerp this summer I was touched on the shoulder, and a voice whispered 'Not dead yet!' On turning I saw a gentleman who came to me on the 30th of January, 1891, at the age of fifty-three, in a condition of great

trepidation, having been rejected a few days before for Brights disease." He also mentions the case of a very distinguished public man in Canada, for years a hard worker, careless in his habits of eating and drinking, who was rejected for life insurance at the age of sixty, with the diagnosis of Brights disease, and was given a gloomy prognosis by no less an authority than Sir Andrew Clark. This patient was so thoroughly frightened that he took a year's rest, and when he began work again he quit over-stoking his boilers with the result that at the time this essay was written, he was a man of eighty and still vigorous. He had truly found the advantages of albumin and casts in the urine. Every practitioner has had similar experiences, and many will be inclined to agree with Osler when he says, "I do not wish to minimize the importance of the information to be obtained by an examination of the urine, but we must ever bear in mind the adage—true today as well as in the times of the old 'Pisse-Prophets': *urina est meretrice, vel mendax*—the urine is a harlot or a liar."

While dropsy and albumin were attracting the attention of the students of Brights disease, the third member of the major triad of symptoms, high blood pressure, was slowly forcing itself into recognition. Many of the keen observers of the past ages had described the hard, firm, bounding pulse of these patients, but it remained for the physiologists to initiate the exact studies of blood pressure. The Rev. Stephen Hales, an English clergyman, in 1706, employed some of his spare moments inserting tubes into the carotids of a horse and measuring the height or pressure of blood. Later physiologists refined his methods, and we are familiar with the mercury manometer connected with the carotids of the dog, a comparatively simple device which has given us such accurate information in regard to blood pressure, and the effects of physiological states and drugs upon it. Later instruments, particularly the blood pressure apparatus of Riva Rocci and its modifications, made blood pressure observation possible without the carotid cannula, and it was found that these patients with firm uncompressible pulses showed a blood pressure far above that of their healthy fellows.

Again, however, the harmony of the clinical picture was disturbed by certain disorders. Many of these patients who were told that, because of their high blood pressure, they had Brights disease, never developed dropsy, but instead showed cardiac symptoms, had an apoplectic stroke, or even went on about their daily life as usual for many years. These observations at first produced a mild degree

of consternation. The disease picture so carefully painted by masters of clinical observation, and of pathological examination seemed badly blurred. Later studies, however, by the chemist and the experimental pathologist, have sharpened the lines of this somewhat obscured picture, and have added a wealth of detail unknown to the old masters.

The large amount of work done the last few years on the subject of renal function, particularly studies in blood chemistry and functional tests, has given us an entirely new viewpoint on the subject of high blood pressure. The net result of these studies has been to show us that there is unquestionably a form of arterial hypertension, which at first shows no evidence of kidney damage, and presents no signs of arterial disease.

Before proceeding very far into the discussion of arterial hypertension, it is of prime importance to state as clearly as possible, just what methods are the most accurate for reading blood pressure, and what the normal values are.

The older clinicians estimated the blood pressure entirely by the use of the finger and instrumental registration of the blood pressure was not possible until the instrument of von Basch appeared in 1876. Like many other new inventions, this instrument had scorn and ridicule heaped upon it. The British Medical Journal in an editorial rebuked the medical profession saying, "We pauperize our senses, and weaken clinical acuity." Sir Clifford Allbutt has given us an interesting account of this onslaught on the sphygmomanometer, but he himself adopted it at once, because, as he says "I am old enough to remember the jokes of old-fashioned physicians at those faddists who thought to make up for the lack of clinical acumen and experience, but the pretension of the stethoscope, and a little later, of the thermometer."

The experience of such authorities as Allbutt, Krehl, Byron, Bramwell, Thayer, McPhedran and Mackenzie, is unanimous in regard to the great superiority of the sphygmomanometer over digital palpation. The late Professor Gibson of Edinburgh, a life-long student of cardiac and arterial disease, wrote that "A long training of my fingers beside the sphygmomanometer has taught me how fallacious the finger must always be."

Two of the main sources of error in the digital estimation of blood pressure are due to an inability to allow for a thickening of the vessel wall, and to a confusion between tension and volume. As concrete examples of these errors, how often do we feel the pulse in a thickened calcified artery, and guess it about 180, only to find that the sys-

tolic pressure is 120. As a companion error we often palpate a feeble pulse in dysentery or during a severe diarrhoea and feel sure the patient has a very low blood pressure, although a later reading of the sphygmomanometer shows it to be normal. A very great defect of digital estimation also lies in the fact that it gives an even more erroneous conception of the diastolic pressure. Palpation of the pulse is too important a procedure to need any vindication at my hand, but as a method of estimating blood pressure it is less accurate than estimating hemoglobin by looking at the finger nails, or judging the severity of diabetes by the specific gravity of the urine.

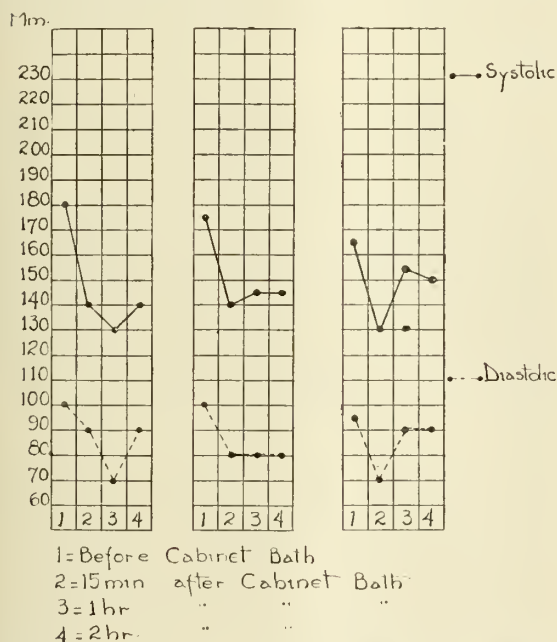


Figure 1.—Chart showing the effect of cabinet baths upon blood pressure. Observations at intervals of one week.

The reliable tables compiled from life insurance statistics gives us accurate information regarding the normal blood pressure at different ages. As a practical guide we may conclude that up to middle life, a systolic blood pressure constantly above 140 and thereafter above 150 is an evidence of pathological hypertension. Statistics in regard to diastolic pressure, are, unfortunately not so numerous or satisfactory, but as a general rule we are safe in saying that a persistent diastolic pressure of 100 or over is evidence of a true hypertension. The study of the diastolic pressure has not, unfortunately, received the attention in the past that it deserves. The systolic pressure, the sudden rise during the rather dramatic cycle of the heart beat, has somehow attracted the attention of

the physiologists and clinicians far more than the quiet resting period between. Yet, we must not forget that the pressure during this period of rest is a more accurate index of the constant wear and tear upon the circulatory system.

The most satisfactory method of estimating systolic and diastolic blood pressure is the auscultatory method described by Korotkoff in 1905. This method has the endorsement of such authorities as Allbutt, Oliver, McWilliam and Janeway, and is gradually being used to the exclusion of all other methods. Its simplicity and accuracy have commended it to all masters in this field.

In making a diagnosis of arterial hypertension, there are certain sources of error that must be carefully eliminated. This is particularly true of moderate elevations of blood pressure. When a patient's blood pressure is for example 200 systolic, and 130 diastolic, we are safe in saying that he has an arterial hypertension. If, however, his systolic blood pressure is 150 or 165, we must exercise more caution and repeat the observation on several occasions before committing ourselves to a positive diagnosis.

One of the commonest sources of error, in my experience, is an elevation of blood pressure due to emotional states such as fear and excitement. Every careful nurse, when taking a patient's pulse, waits one half to one minute before beginning to count, since experience has taught her that from emotional causes the patient's pulse is often much faster at the moment she first palpates it. A similar caution should be exercised when the blood pressure is taken.

Gibson, who was a very forceful and energetic teacher, found that after a clinical demonstration before a group of students, his own systolic pressure, if he recorded it immediately, had risen some thirty-five to forty-five millimeters above the ordinary level. I have personally seen a number of such instances. A short time ago, a patient was referred to me, by a surgeon, with the diagnosis of arterial hypertension, and the note that her blood pressure was 170. On questioning the woman I found that she was a neurotic, high-strung woman who had been told that she must have a surgical operation performed and sent to this surgeon to make the necessary arrangements. She was reassured that there were no indications for any operation, and her blood pressure when taken some ten minutes later showed a systolic of 135, and a diastolic of 85. A number of subsequent blood pressure readings were made, all showing perfectly normal values.

In making a diagnosis of hypertension, due

to such emotional states, the diastolic readings are of particular importance. In these conditions, as a rule, the diastolic pressure is not elevated. So important is this observation, that many students of cardio-vascular disease will not make a diagnosis of arterial hypertension unless the diastolic pressure is 100 or over.

There are other conditions associated with arterial hypertension, but they are, as a rule, even more easily recognized by taking a careful history and making a complete physical examination. Thus we see an elevation of blood pressure associated with intracranial pressure, with asphyxia, in bronchial asthma, laryngeal stenosis, eclampsia, angina pectoris, and severe abdominal pain. These elevations are transitory in character, and the associated underlying pathologic condition easily recognized, as a rule.

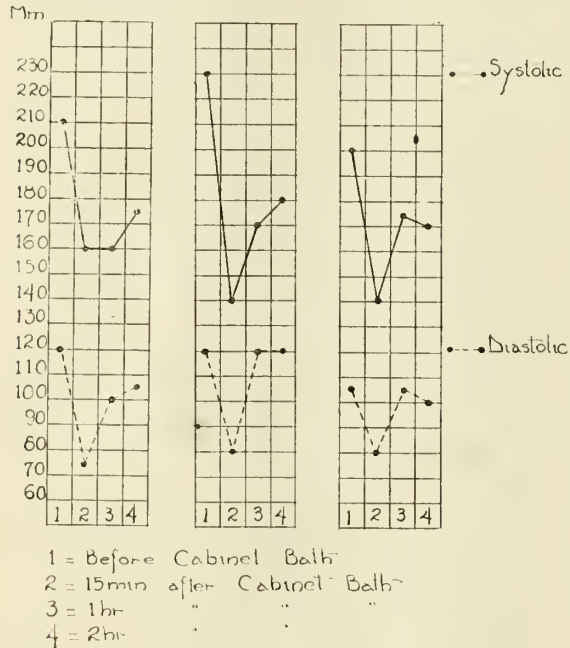


Figure 2.—Chart showing the effect of cabinet baths upon blood pressure. Intervals of two weeks.

The three principal types of hypertension are:

1. Arterial hypertension associated with chronic nephritis.
2. Arterial hypertension associated with advanced arteriosclerosis.
3. Arterial hypertension of a primary nature.

Arterial hypertension associated with chronic nephritis comprises a group of cases that in the earliest stages may be difficult to diagnosis. Later, when the kidney lesions are well developed, this group can, as a rule, be sharply differentiated. Such patients

show marked disturbances in urinary output, edema may be present, the urine shows albumin and casts in considerable quantities, there may be a diminished output of nitrogen and chlorides. The excretion of phenolsulphonephthalein is lower than normal, the blood pressure shows high value for urea and creatinin.

Arterial hypertension associated with arteriosclerosis is diagnosed on the basis of physical examination, tortuosity and thickening of the radial, temporal and bronchial arteries being usually made out. Ophthalmoscopic examination shows arteriosclerosis of the retinal arteries. As the process advances, arteriosclerosis of the renal vessels produces kidney lesions, and we have the added picture of an accompanying arteriosclerotic nephritis.

The third group of arterial hypertension, the so-called primary type, comprises a very large number of cases, and has been, to a certain measure, overlooked by clinicians in the past. This disease has been known as "essential hypertension" among the Germans. Sir Clifford Allbutt has named it "hyperpesia", while Janeway called it "hypertensive cardio-vascular disease." Personally I prefer the designation "hypertensive cardio-vascular disease" since this term emphasizes the vascular and particularly the cardiac involvement.

The patients of this group when first seen show nothing abnormal except an increased systolic and diastolic pressure. The urine may contain an occasional cast, and at times a trace of albumin, or may be quite negative on examination. The phenolsulphonephthalein test shows a normal value, the urinary output and specific gravity are normal, the blood urea and blood creatinin are not increased. Some of these cases continue in this condition for years, with no apparent change, suffering at times from headache and a sense of fulness in the head. Others do not remain stationary but develop later a definite generalized arteriosclerosis. They do not, as a rule, develop any marked kidney disease, and Janeway, who autopsied a number of such cases, noted that the kidneys showed nothing abnormal, or at most, only insignificant lesions. Death is usually due to cerebral hemorrhage or cardiac failure.

All of these recent studies on hypertension show rather clearly, then, that it may occur in two definite forms, one a pure type with no evidence of arterial or kidney disease, either clinically or at autopsy; the other at first a pure type, but later, apparently, producing arteriosclerosis with a small amount of arteriosclerotic kidney damage.

Because of the close association between these three conditions, arterial hypertension with chronic nephritis, arterial hypertension with arteriosclerosis; and pure arterial hypertension or hypertensive cardio-vascular disease, I thought it of interest to review some of the cases of arterial hypertension seen during the past two years, and discuss their relationship to each other and the effect of treatment upon them.

The total number of cases studied was 163. Of this number only 11 showed definite evidences of chronic nephritis, judged by marked increase or decrease of urinary output, high blood urea (above 20 m per 100 cc.) high blood creatinin (above 2 mg. per 100 cc.) and lowered phthalein excretion (below 50% in two hours.) Eight of these cases showed marked arteriosclerosis; three had no demonstrable arterial changes; three of the cases showing arteriosclerosis died, one of them was autopsied, and presented a very marked picture of an extreme generalized arteriosclerosis with arteriosclerotic kidneys. Fifty-two of the total number of 163 hypertension cases showed arteriosclerosis demonstrated by palpable thickened radials and arteriosclerotic retinal vessels. Forty-one of this arteriosclerotic group showed no kidney anomalies beyond an occasional trace of albumin, or a cast now and then. The blood urea and creatinin values were normal, the phenolsulphonephthalein test showed an adequate elimination. The average figures for the blood urea in these cases were 14 mg. per 100 cc. for the cases of pure hypertension; 14 mg. for those showing arteriosclerosis, and 32 mg. for the group of nephritis. The values for blood uric acid were normal except in several cases of chronic nephritis where amounts as large as 5 and 6.87 mg. per 100 cc. were found. The blood sugar studies showed normal values for the pure cases and an increase in the patients showing arteriosclerosis and chronic nephritis. The average excretion of phenolsulphonephthalein in two hours after intramuscular injection was 59 per cent in the group of pure hypertensives, 47 per cent in the arteriosclerotic cases.

A study of the age incidence of this entire group of hypertensives is of some interest. The average age was 57, a figure made especially high because of the inclusion in this group of eight patients well above 70, and several other 68 or 69. Most of these patients however, were in the early fifties.

Sir Clifford Allbutt who had few equals as a clinician and investigator, has made a life-long study of arteriosclerosis, and recently brought together the results of his exceptional experience in his book "Diseases of the Arteries." He has come to the conclusion

that arteriosclerosis in general presents two types:

1. Senile or decrescent arteriosclerosis, the result of a life-time service on the part of the arteries, and an expression of this wear and tear. Toxic influences may produce a precocious senility.

2. Arteriosclerosis which is secondary to hyperpesia, and apparently the result of long continued high blood pressure.

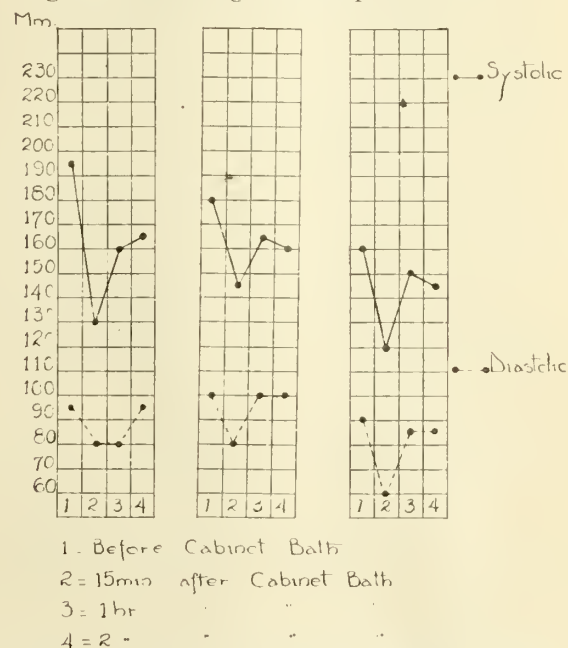


Figure 3.—Chart showing the effect of cabinet baths upon blood pressure. Observations at intervals of one month. Note that systolic pressure is gradually falling.

At least one-half, probably more of our cases, if their life history were known, belong to this second group. This conception explains in a masterly fashion an observation that has puzzled us for years, why some arteriosclerotics have high blood pressure and others do not.

Of these 163 cases of arterial hypertension, 105, or 64 per cent were cases of pure hypertension, or hypertensive cardio-vascular disease. These patients showed no evidence of chronic nephritis or of arteriosclerosis. The functional kidney tests gave normal results. The urine at times showed a trace of albumin and a few casts, like Osler's patients, but that is not surprising when we think of the strain that a high blood pressure must throw upon the kidneys. It has been repeatedly shown that soldiers, after a march, and football players after a game, have similar urinary findings.

What is the cause of this condition since arteriosclerosis and Bright's disease seem to be eliminated?

It was suggested that arteriosclerosis of the abdominal vessels not observed during life was responsible for the high blood pressure. Later studies at the autopsy table have not borne out this assumption.

Increased viscosity of the blood was an attractive theory for a time. Extended observations upon this very interesting subject, have shown, however, that it bears no particular relation to hypertension.

The possible influence of a hyper-secretion of the adrenals has been mentioned from time to time. This however, still belongs to the realms of speculation rather than to the domain of demonstrated fact.

Heredity is undoubtedly a factor. Barker has expressed this very well by saying that the best preventative of high blood pressure is for one to "get himself well-born without constitutional inferiorities." This remark may perhaps elicit deafening applause from a eugenic congress, but as a therapeutic or even prophylactic measure, is unfortunately impractical.

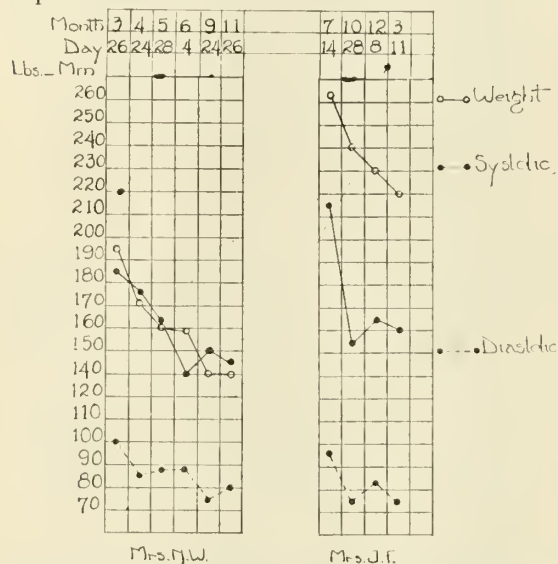


Figure 4.—Chart showing fall in blood pressure with reduction of weight in two patients. Figures represent blood pressure in millimeters and weight in pounds.

Obesity also is surely a contributing cause. The life-insurance examiner found out long ago that fat people are bad risks, and their tables show that man at fifty has a better chance for longevity if he is forty pounds underweight than if he weighs ten pounds too much. Hippocrates, although having access to no extensive longevity tables, knew this when he wrote in his 44th aphorism "Persons who are naturally very fat are apt to die earlier than those who are slender."

In 60 of my cases this matter was investigated carefully. The patient's age, height,

and weight were carefully noted, compared with the tables prepared by the insurance companies. Forty-six of the sixty patients were from 20 to 100 pounds overweight.

Another factor of importance is a disturbance of the vaso-constrictors in the capillary or pre-capillary areas. This theory, which supposes a state of constant constriction or spasm of the capillaries and smaller arterioles, has certain experimental and clinical facts in its favor. The physiological effect of vaso-constriction is well known, substances inducing this cause a rise of blood pressure when introduced into the circulation.

Clinically, we know how unstable the vaso-constrictors are in patients with hypertension, and how easily external factors, especially emotional ones, raise the blood pressure. O'Hare has noted rises of from 30 to 50 mm. in his patients when discussing such things as a certain mother-in-law or a dead pet cat. I recently had a patient, an ex-wrestler, whose blood pressure rose over 30 mm. while describing a very exciting bout. Another patient had a similar rise when the matter of street car service was mentioned to her.

Syphilis apparently played no important role as an etiological factor. Only two of the patients in this series showed a positive Wassermann. These figures are in agreement with those of Barker who found only five patients with a positive Wassermann in a series of 200 cases.

The role of focal infections in the production of hypertensive cardio-vascular disease must be considered, although here, as elsewhere, its importance is difficult to estimate. Thirty-four of these patients or 20 per cent showed some evidence of chronic infection; 16 had bad tonsils, 12 had chronic arthritis, but only five had abscessed teeth. It is interesting to note also that 7 had gallstones and that there were five diabetics in the series.

It is significant that 20 per cent of these cases showed signs of definite focal infection at the time they first came under observation. Other patients may have had such infection earlier, and some patients may have had unrecognized infections while under observation.

The subjective symptoms of these patients are of interest and they present striking contrasts. Many patients feel unusually well, almost exhilarated, and state that their friends constantly remark on how well they are looking. Others are depressed constantly and are very neurasthenic. The most common disagreeable symptoms were fulness in the head, dizziness and headaches in the earlier stages. Later when the heart is flag-

ging under its load, we see dyspnoea, pain in the precordial area, and all the typical symptoms of myocardial insufficiency.

Treatment of these cases of hypertensive cardio-vascular disease demands accurate knowledge of the case on the part of the physician, and intelligent co-operation on the part of the patient. The physician should inform himself particularly in regard to the condition of the patient's kidneys by means of a careful study of the urine, the blood urea, the phenolsulphonphthalein test. The patients in this series were treated usually according to the following outline:

1. *General Measures.* The patient is told that the more active his physical life is the higher his blood pressure must go to sustain these activities. He is advised not to vegetate, but is advised to be more deliberate in his movements, not to run for street cars, not to dash up the stairs three steps at a time. Equanimity in mind and body.

I recently had as a patient a woman of 41 whose blood pressure was 244 systolic, and 130 diastolic. The importance of "going slowly" was emphasized to her. Several weeks later I was visited by her sister who told me that she was terribly alarmed at the patient's condition. "She has lost all of her ginger," she said. "She goes around like an old woman." The sister was much reassured when I took out the records and showed her that the patient's blood pressure had fallen from 244 to 170, that the recent examination showed a negative urine, that her headaches and the buzzing in her ears had disappeared entirely. She was a faithful patient who is still improving.

2. *Diet.* The patients are all urged to restrict their fluid intake to $1\frac{1}{2}$ qts. per day. This restriction of fluid, a measure long urged by clinicians, has not only clinical but experimental evidence in its favor. Miller and Williams have recently shown that by taking large quantities of water the systolic blood pressure may be raised from 160 to 287, and the diastolic from 100 to 180 in one of their experiments on hypertensives. As these patients are usually obese, a reduction to the ideal figure is urged. The diet is one low in proteins, as a rule, and rich particularly in vegetables having much fibrous residue. (Such vegetables as spinach, cauliflower, cabbage and asparagus have little food value, but because of their bulk aid in appeasing an often ravenous appetite, and are of great value in controlling constipation.)

The results achieved by such reduction in weight are often startling. The body after all has striking resemblances to mechanical

devices. The hotter the fire we build under our boilers, the higher our steam pressure, and the larger our plant is, the more steam it takes to drive the engine.

The wholesale ordering of drastic diets of skimmed milk and the like should be avoided. Coffee should not be taken, but instead Kaffee Hag or some coffee substitute.

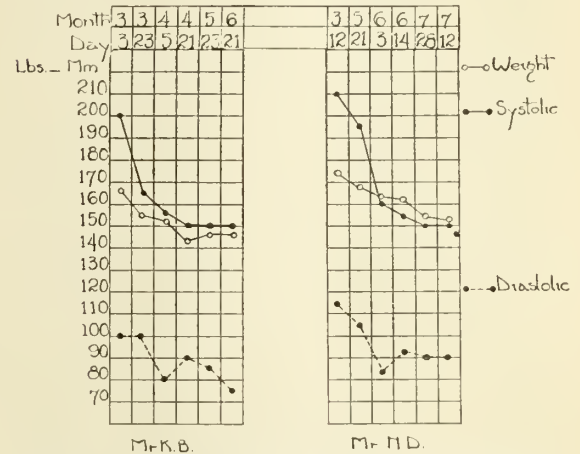


Figure 5.—Chart showing parallelism between reduction in weight and reduction of blood pressure.

3. *Hydrotherapy.* I have been very much impressed with the results obtained from the use of warm cabinet baths. Dilatation of the capillaries of the body causes a rush of the blood to the skin with a constant lowering of the pressure of the large arteries. Observation has shown me that a patient with hypertension will often have his blood pressure lowered markedly even to normal for from one to five hours after treatment. This gives the vascular system a period of rest from its burden. Repeated treatments lengthen this period, and the curve of hypertension begins to decline.

4. *Medicine.* Benzyl benzoate introduced by Macht as an anti-spasmodic and vasodilator has been extensively used in these cases, and seemingly with good results.

Digitalis is recommended when the heart shows any signs of weariness. Barker praises it, and Moschowitz considers it the most valuable drug we possess for this condition. Iodides have somewhat gone out of fashion, although some patients seem to feel better when taking them. The nitrates are of value as a temporary measure, but their pressure-reducing effect is only transitory.

Constipation must be overcome by diet, habit and where necessary, by mineral oils or saline cathartics. Many patients feel better from a weekly purge with blue mass at night followed by a saline in the morning.

Can hypertension be cured? Much de-

pend upon the stage at which it is discovered.

All of the cases in this series showing hypertension with no arteriosclerosis or chronic nephritis have been markedly improved, and their blood pressure lowered. Many of them are now wholly free from symptoms and have a normal blood pressure. Candor, however, compels the statement that these patients have been under observation too short a time to use such a definite word as "cure." Others however, who have pursued studies on this condition for many years show a hopeful tone in their writings.

Allbutt, the great master in this field says, "If this malady be discovered before it has impressed itself indelibly upon the vessels, we may wholly drive it away, or by no very irksome watchfulness, dispel it again and again; even if we do not detect it until a later stage, we may still control it, and postpone, if we can not avert its extremest perils."

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The Cerebrospinal Fluid in Acute Anterior Poliomyelitis

WILLIAM C. MENNINGER, M.A., Topeka

Infantile paralysis has again appeared in epidemic form in Kansas.* Because of the seriousness of the effects of the disease, because of the difficulty in making an early diagnosis, and because of our ignorance of the epidemiology and transmission of the disease, it remains a baffling mystery, and an incentive to every possible attack or effort at solution.

Early diagnosis has three points of merit. In the first place, it permits of immediate quarantine regulations and hence probably contributes to a limitation of the epidemic. In the second place, it enables every effort to be directed toward the correct symptomatic treatment of the paralysis, and save time and strength in misdirected treatment for supposed pneumonia, appendicitis, etc. Thirdly, it permits of the prompt administration of intravenous hexamethylenamine, acriflavine or sera, all of which have their advocates and seem to yield results in some cases if given early enough.

But early diagnosis in this disease is exceedingly difficult. No evidence need be cited to prove this. It remains to expedite early diagnosis. It is this which the examination of the cerebrospinal fluid does better than any other single procedure. Infantile paralysis is a cord inflammation, affecting usually the anterior horn cells to the greatest extent, but also affecting usually the

white matter of the cord, the meninges, and the brain,—a polio-meningo-encephalo-myelitis. The disease most typically manifests itself first as a systemic infection, which in a varying length of time, invades the central nervous system.

The spinal fluid shows certain definite although different pictures in these two stages, i. e., before the invasion and after the invasion of the meninges.

BEFORE MENINGEAL INVASION

Before the meningeal invasion, the findings in the spinal fluid are essentially like those in meningismus, i. e., a sterile toxic meningitis. According to Draper¹, the pressure is somewhat increased, as well as the quantity of fluid. At this stage, there is no increase in the number of cells present and usually little or no globulin.

AFTER MENINGEAL INVASION

The findings in the spinal fluid change as the condition progresses.

1. *Appearance*: Draper¹, Neal², and Levinson³, all state that as a rule, the fluid is clear when first withdrawn, rarely opalescent. Zingher⁴ has described a "ground glass" appearance of the fluid in many cases, noticeable immediately upon withdrawal. If held against a dark background with transmitted light, the fluid appears as ground glass, due to an increase in the lymphocytes. Draper¹ sees no difference in this phenomena from the appearance ascribed to excessive white count.

Occasionally the fluid presents the Froin syndrome⁵, which consists in a massive coagulation of the fluid with a varying firmness of the clot, xanthochromia causing a yellow color, and with a marked increase in cells and albumin. It is generally agreed⁶ that the color here is due to the presence of blood pigments, chiefly bilirubin, and the coagulation to an increase in fibrin. Neal² mentions the occurrence of this type of spinal fluid in poliomyelitis, and also Nammack⁷ has noted it. Of ninety-six yellow spinal fluids, Nammack⁷ found fourteen in cases of poliomyelitis. This condition also occurs in tuberculosis meningitis, hemorrhages, syringomyelia, pachymeningitis, and other conditions, so is not characteristic of poliomyelitis. However, Nammack⁷ feels that a patient having meningeal symptoms who gives a yellow spinal fluid, should incline one to a diagnosis of tuberculous meningitis or poliomyelitis, these two being the most common conditions in which yellow spinal fluid is found.

Besides this rather rare type of spinal fluid in which the Froin syndrome is shown, Neal²,

*There were 25 cases in Topeka when this article was written, August 17, 1923.

and also the Monograph of the New York City epidemic of 1916, mention a second rare type of spinal fluid, occurring where the hemorrhagic process has been extensive, and red blood cells are evenly diffused throughout.

In some cases, a well formed fibrin web may become noticeable after standing twelve to twenty-four hours. This web formation was previously thought pathognomic for tuberculous meningitis.

2. *Amount*: The New York City Public Health Monograph⁸ states the fluid is usually increased in amount. Levinson³ states that it is increased from 20 to 50 c. c. at one sitting, as compared to a normal withdrawal at one sitting of 10 c. c.

3. *Pressure*: Levinson³ states the pressure to be increased from 500 to 700 mm. of water. Draper¹ notes that the pressure is increased but that it falls somewhat after the meningeal invasion compared to that before the meningeal invasion.

4. *Protein*: Both albumin and globulin are usually increased. The New York Monograph⁸ states that the globulin runs parallel with the albumin. The albumin is increased, and persists as late as eight weeks after the onset of symptoms. The maximum amount is found in a larger proportion of cases in the second week rather than the first. Draper¹ states that the globulin increases and persists late, with even a slight rise. Levinson³ states that it may be negative.

A simple test which is recommended in the New York Monograph⁸ for the use at the bed side, is the foam test. Due to the increased protein content, on shaking, the fluid forms a persistent foam, which lasts a half hour or longer.

5. *Reduction of Copper Solution*: Using either Fehling's or Benedict's solutions, there is usually a prompt reduction of the copper. This is an important distinction from the purulent meningitides, which reduce poorly or not at all. The New York Monograph⁸ states that in the presence of excess protein, the reduction is poorer.

6. *Cytology*: The cells are increased, to a varying amount, and may vary in type to some extent. The number of cells in the New York series⁸ varied from slightly above normal—from 15 to 20—to 1000 per c. mm. or more. Draper¹ states the count varies from 10 to 2500 to the c. mm. He believes that while small changes in the number of cells are not a great aid in making a prognosis, in general cases, counts below 100 cells per c. mm. within the first twelve hours, are less apt to develop paralysis than counts of 500 or more. The Joint Committee⁹ report of

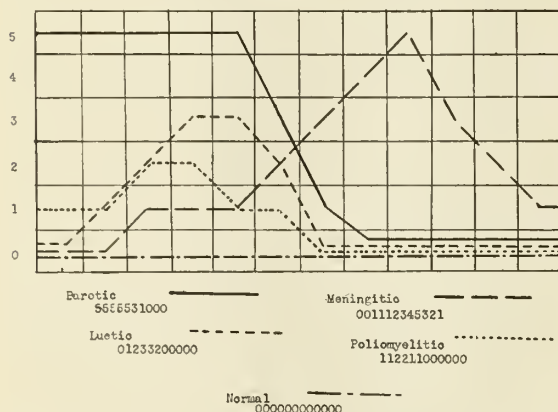
the 1916 epidemic, state that the number of cells and the amount of globulin found during the very clearly meningeal involvement does not furnish any definite basis for prognosis in regard to the severity or the course of the disease.

With regard to the type of cell, Draper¹ states that in the very early invasion stage, the prevailing cell is a multilobed type resembling and usually spoken of as polymorphonuclear leucocyte, but they are more probably wandering tissue cells or the clasmato-cytes of Mrachand. Within 24 to 36 hours, these are replaced by a count in which the small lymphocytes make up about 90 per cent of the total. If the fluid is cloudy, Neal² states, there may be a polymorphonuclear leucocytosis of 90 per cent and not infrequently as high as 60 per cent, though usually the cytology is about 80 per cent mononuclear cells, these being possibly characterists. In the New York series⁸ of 1500 fluids, the polymorphonuclear cells predominated only 38 times, varying from the second to the twenty-seventh day of the disease, which lead these workers to conclude that the polymorphonuclear cells present a definite type of reaction and not a stage in the disease. They also found some polyform cells. Levinson³ states that the increase in cells is manifested in the preparalytic stage and lasts from 14 to 16 days after the onset of the paralysis, the maximum count occurring during the first week. The New York series shows a maximum number in the first week, and in nearly all instances drop practically to normal by the second week.

7. *Colloidal Gold Reaction*: The colloidal gold reaction in 200 positive poliomyelitis fluids reported by the New York Board of Health, showed an average reading of 1112211000, varying in the extremes from 1111000000 to 1232100000. The composite average of 87 cases in the New York Monograph⁸ shows a weak luetic curve, 40 cases of which read 1122110000. In the main, the usual readings correspond to a weak luetic spinal fluid. Levinson³ states that the colloidal gold is negative in the preparalytic stage or with the change in the luetic zone, later the change being most prominent in the meningitis zone. Regan, Litvak, and Regan¹⁰, in 42 cases, found the colloidal gold reaction positive in every case in the acute stage. Eighty-eight per cent of these fluids changed within the first six dilutions, while fourteen cases extended to the seventh dilution. The normal reaction was not obtained in any case before the end of the third week. Sixty-five per cent of cases tested gave a normal reaction at the eighth week.

8. *Chemistry*: In a very elaborate series, the Monograph⁸ of the New York City epidemic presents the variations in total nitrogen non-protein nitrogen, urea nitrogen, creatinine, creatin, and sugar. Nothing of diag-

COLLOIDAL GOLD CURVES



nostic value was found, and these workers state that while the outcome of 74 cases so studied, varied in their outcome from no paralysis to death, the percentage of these substances found in each fluid gave no indication of the final outcome.

DIFFERENTIAL DIAGNOSIS

1. *Purulent Meningitis*: In the early stages of the purulent meningitides, there is possible confusion with the fluid of poliomyelitis. However in the former, the protein content is greater in amount as a rule, there is less reduction of alkaline copper solution, the cytology is about 90 per cent polynuclear leucocytes, and the etiological organism is usually present. While all these conditions may not hold for any one case of purulent meningitis, in practically all cases, enough evidence is present to eliminate a diagnosis of poliomyelitis.

2. *Tuberculous Meningitis*: From poliomyelitis in the second week. The tubercle bacillus is sometimes demonstrable, caught in the fibrin web which forms, though, as has been mentioned, this web may form in poliomyelitis. The cell count in tuberculous meningitis is usually greater (although often the same type of mononuclear lymphocytes) and the protein is in greater quantity. Alkaline copper solution is usually more strongly reduced in poliomyelitis. In some cases only animal inoculation serves to distinguish between the two conditions. Colloidal gold changes in the third zone.

3. *Syphilitic Meningitis*: This is best differentiated by the Wassermann test and the colloidal gold reaction, but globulin, albumin, and cell increases are usually greater in this condition than in poliomyelitis. Sometimes

of course the Wassermann may be negative and the colloidal gold curve a typical luetic type in definite neurosyphilis, which serologically corresponds with those rare cases of poliomyelitis having well marked gold sol second zone curves. Such a case came to the attention of this laboratory in the present epidemic: the cell count 90 per c. mm., 94 per cent lymphocytes, prompt reduction of Benedict's solution, very weakly positive globulin tests, a negative Wassermann and a colloidal gold curve reading 0234554210. From the clinical findings we believe this a case of poliomyelitis without complications.

4. *Meningismus*: The fluid in this condition is clear, increased in amount and under pressure, but otherwise usually of normal character, although cell increase is occasionally present.

5. *Epidemic Encephalitis*: The findings vary considerably. According to Jelliffe and White, and others, there are sometimes no pathological findings. Lymphocytosis is not infrequent. Albuminosis is rarely met with. Actual blood may be infrequently found from meningeal hemorrhage. Increase in sugar content is thought by some to be constant, and a great help in differential diagnosis. The gold sol curve is most typically in the second zone, but frequently is absent.

6. *Toxic or Infectious Myelitis*: This is often very difficult to differentiate. The cells in this condition are more likely to be polymorphonuclear in character, remaining so much longer than in poliomyelitis, and the globulin and cell increases are generally less marked than in poliomyelitis. In a severe fatal case seen by Dr. Karl Menninger, the fluid was entirely normal.

SUMMARY

1. Before meningeal invasion, the spinal fluid in poliomyelitis shows an increased amount, increased pressure, little or no globulin, and no increase in cell count.

2. After meningeal invasion, it is usually clear, sometimes cloudy, rarely yellow, and very rarely presents the Froin syndrome. A fibrin web may form. In addition:

3. The amount if the fluid is increased.

4. The pressure is increased, but falls slightly after the invasion.

5. Globulin and albumin are generally increased.

6. Alkaline copper solution is usually promptly reduced.

7. The cell count is increased, varying from 10 to 2500 cells per c. mm. Early these may be of the polymorphonuclear leucocyte type, but within 12 to 24 hours after the invasion, change to 80 per cent mononuclear lymphocytes.

DIFFERENTIAL DIAGNOSIS IN SPINAL FLUIDS

DISEASE	APPEARANCE	PRESSURE	PROTEIN	CYTOLOGY	SUGAR	COLLOIDAL GOLD	OTHER DIFFERENTIAL POINTS
POLEOMYELITIS	Clear—rarely cloudy	Slight or moderate increase	+	Lymphocytes	Normal	2nd zone	Rarely fibrin web
PURULENT MENINGITIS	Cloudy	Greatly increased	+++	Neutrophiles	Marked decr. or absent	3rd zone	Etiolog. organism present
TUBERCULOUS MENINGITIS	Clear	Slightly increased	++	Lymphocytes	Slight decrease	3rd zone	Etiolog. organism present fibrin web forms
SYPHILITIC MENINGITIS	Clear	Increased	++	Lymphocytes Neutrophiles	Normal	2nd zone	Wassermann positive
EPIDEMIC ENCEPHALITIS	Clear	Slight to moderate inc.	+	Lymphocytes	Increased	Varies; usually 2nd zone	
TOXIC MYELITIS	Clear	Normal	+ or 0	Neutrophiles	Normal	Varies; often normal	
MENINGISMUS	Clear	Slight increase	Absent usually	Normal usually	Normal	Normal	
MULTIPLE SCLEROSIS	Clear	Normal	Normal	Normal	Normal	1st zone	

8. The colloidal gold reaction shows a weak luetic curve in positive poliomyelitis fluids, taken in the acute stage.

9. The chemistry of the fluid shows nothing of special help in diagnosis or prognosis in this disease.

10. Points in the differential diagnosis of poliomyelitis from the purulent meningitides, tuberculous meningitis, syphilitic meningitis, meningismus, epidemic encephalitis, and toxic myelitis, have been cited.

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Medical Ethics and Etiquette.

F. M. WILEY, M.D., Fredonia

Read before the Wilson County Medical Society, May 14, 1923.

Some months ago, in an unguarded moment I said to our good secretary that I believed sometime I would prepare, and read before the society, a paper on the subject of Ethics. The rash statement was construed as a promise, and I have had reason to regret making it; for as I have considered the matter, difficulties and possible dangers have faced me that did not at first appear. I wish it understood at the beginning that I do not aspire to set up a code. The A. M. A. has done that. Incidentally it may interest you to be reminded that the present "Code of Ethics of the American Medical Association" was first proposed by Dr. Thomas Percival, an English physician, in a small book published in London in 1807, and with a few alterations was adopted by the A. M. A. in 1847. Every true physician among us unquestionably owes to this code his sacred allegiance, and is supposed to be familiar with its requirements. No better code of moral principles can be found anywhere. I shall not try to suggest any improvement of it, but briefly discuss some of its provisions to which we are pledged in their application to our local problems.

I am not an authority, nor a dictator. No one need feel bound by my opinions except as they appeal to his judgment. I ask you to credit me with sincerity when I say I shall not indulge in personalities. I shall not attempt to cover the entire subject, for I find it will be impossible to do so in the brief time allowed for these papers.

It is interesting to think of the relation between Ethics and Etiquette. The American Medical Dictionary uses the words interchangeably. The most satisfactory definitions I have found are, Ethics—"The science of human duty." Etiquette, "The usages of * * * professional intercourse." Science of duty, conveys the thought of authority and permanence. Usages of professional intercourse may vary at different times or places. Ethics is compelling, etiquette persuasive. They are so closely related that neither can be ignored in the practice of medicine without serious loss. The disregard of them is the occasion of many complaints, much bitter feeling, disrupted friendships, life-long enmities, even personal violence and bloodshed. If the medical profession fails to receive from the public the degree of respect and confidence we think it is entitled to, if the attitude of many intelligent and worthy people toward us is one of distrust and criticism, if we fail to inspire in our patrons sentiments of grateful appreciation, and something approaching reverence for our devotion to a beneficent and exacting calling, may it not be that we ourselves are responsible, and the cause, in a measure at least, lies in our disregard of professional ethics and etiquette? I fear it is not an uncommon attitude that was reflected by a remark of a doctor with whom I was talking in a neighboring town. As we sat in his office the only other physician of the town passed by, and the doctor pointed him out saying, "There goes my adversary now." I have heard it said of a physician, "No new doctor can get a practice in that town if he does not bow down to him." The duty that a medical man owes to the profession of which he is a member has greater claims upon him than any other duty can have except alone his obligations to God and Country, and he if he cherishes a proper pride in his calling will not detract from the public esteem in which it is held by unfair criticism of its members. Moreover, none of us is above criticism, and we can not expect to receive more courteous treatment than we accord to others. These general remarks may seem platitudinous but I am convinced they are the core of the whole subject of medical ethics.

To be more concrete, and in common parlance, "Get down to cases." A medical practitioner should not seek publicity by advertising except in certain ways, as to do so is to attempt to get practice by other than the legitimate means of proficiency in his profession and skill and success in dealing with patients. A simple door plate or sign is all that is necessary or in good taste, though it

is permissible to add, "Physician and Surgeon," or "Surgeon."

There are cynics who refuse to believe that any one can be found who secretly despises that which to the commercial mind is the secret of success, and some of the newspapers, which live by this sordid means, are angry when asked to leave our names out of the daily menu they provide for their readers. A circular issued by the direction of this society, calling the attention of newspaper editors to the desire generally entertained by the profession that the professional calls of medical men to neighboring communities should be omitted has been treated as though it were an attempt to tamper with the liberty of the press. This unfortunate and reprehensible conduct on the part of the editors of our local papers has been the cause of great humiliation and embarrassment to us, for which the resulting advantage derived from such gratuitous advertising has been very inadequate recompense. These editors have been very persistent, and when we have studiously concealed our movements from them, have not hesitated to artfully and unscrupulously obtain the desired information from our unsuspecting office assistants. So evening after evening, as we gather with our admiring families to spend a quiet hour, and unscramble the daily paper, our spirits are humbled to read, sandwiched between bridge party menus and quack cures for rupture and piles "without the knife," the thrilling announcement that various representatives of our dignified and noble calling have again been in demand to exercise their professional skill in behalf of suffering humanity. In the absence of definite information, the deeply sympathetic public might assume that Dr. A. spent the day poring over a checker board in the little room at the rear of the pool hall, and they are doubtless relieved to read that "Dr. A. made a professional visit to Coyville today." Dr. B. might have wasted the golden hours angling for bull-heads in salt creek, and it is cheering to be informed on good authority that "Dr. B. motored today to Buxton on professional business." It is possible that Drs. C. and D. were engaged in an all day contest to decide the tennis championship, but the dear people feel relieved to know that the first "was down in ox-bow bend today visiting the sick," and the second, "was a professional caller in Neodesha caring for his patients in the Wilson county hospital." Or for variety, "Mrs. Smith was taken to the hospital at Chanute today to be operated on for gall-stones," then after a bridge menu, "Dr. E. was in Chanute on professional business," and so on down the alphabet, sometimes even

to W. And we reflect that all the two hundred subscribers of the said daily are probably reading these startling announcements, and being totally ignorant of our strenuous efforts to prevent their publication, despise us for our seeming inconsistency: for the public knows we profess to being unalterably opposed to advertising. Seriously, all this is either very silly, or it is dishonest. It is silly to pretend we are helpless to prevent it. If we do not want to prevent it, and consider it has value as a means of advertising, we violate a recognized principle of medical ethics, and at the same time are guilty of accepting valuable newspaper space without compensation.

It would surely add to the dignity of our calling to leave this seductive form of quackery to the osteopaths and the chiropractors, and the "consultation free" traveling specialists; and I suggest that action be taken authorizing the officers of this society to stop the disgusting practice. There are people who believe these advertisements are paid for.

CONSULTATIONS

First, from the viewpoint of the attending physician: It would be a fine thing if there were more consultations between neighboring physicians; yet I have known physicians who had them only when forced to do so or relinquish the case, and the tendency seems to be to have fewer rather than more. It shows a broad and liberal spirit to acknowledge our limitations and the possibility of receiving help from the experience and study of another physician; and it adds to the efficiency of a group of men such as this society to frequently get together and study symptoms and treatment of difficult and protracted cases, or even the commoner ones with their almost infinite variations, complications and sequela. Nothing is more productive of friendly relations between doctors than such meetings, and a physician of whom it is known that he at all times welcomes them will be given credit by the public for placing the welfare of his patients above his own personal prestige. *Every consultation should enhance the prestige of the attending physician with the family immediately concerned.* That statement may be questioned, but I am sure the more you think about it the less you will be disposed to criticize it. The primary object of the consultation is the recovery of the patient from his illness: surely that object can not be promoted by impairing in any degree, by word or look, or by a well-timed and significant silence his confidence in his medical attendant.

Since the earliest times we have maintained a minimum consultation fee of ten dollars.

It has seemed to me unfair that the attending physician should receive a smaller fee than the consultant, and for a good many years I have claimed the same fee whether I was acting in one capacity or the other. Whenever to please the patient or his friend, you are forced to set aside other duties in order to meet another physician in consultation it is surely proper for you to charge for such service more than for an ordinary visit, and if in your judgment the circumstances do not in a particular case, justify you in charging as much as the consultant does for his services, you would certainly in any case, be entitled to charge a fee double that you would have for an ordinary visit—for you have all the details that flow from the consultation to carry out, and all the communications to make, and all directions to give, and in consequence are entitled to extra compensation.

If we favor consultations at all we should favor early consultations. There is little satisfaction in being called to see a patient as a forlorn hope after the attendant has absolutely despaired of saving him. I will not contend that the old days were better than the present, but you will pardon me for recalling with some pleasure a practice that was more common I think; forty years ago than at this time, when doctors possibly did not aspire quite so much to the possession of riches untold, and when the milk of human kindness was not soured by the suggestion of casting bread upon the waters never to return. Every doctor was at the call of his neighbor, and frequently and freely joined forces with him in trying cases without the formality of calling it a consultation, or expectation of a fee when the financial condition of the people justified it.

It is well to ask for a consultation before it is suggested by the patient or family. While the attendant should not absolutely insist upon the privilege of selecting a consultant, and it will rarely be necessary for him to do so, it is right and wise that he should have a voice in the selection. At least he should decline to meet men who adhere to dogmas. This applies to osteopaths, chiropractors, faith-healers, medical optometrists, and all other 'opaths, 'practics, etc., and the fact that the 'opath is a graduate in medicine does not alter the case if he seeks to gain advantage by advertising a dogma. Men who are notoriously unfair and unprofessional in their practice should also be banned regardless of their abilities or acquirements.

Before the consultant examines the patient it is customary for him to receive from the attendant an outline of the case, the family history if necessary, and the treatment he has

received. After the examination there should be a discussion of the case, always in private. I doubt if it is ever wise to disregard this rule. During the examination the consultant should carefully avoid expressing any opinion upon any feature of the case. During the discussion differences of opinion will develop. These if possible should be ironed out, and the attendant in stating the final conclusions to the family, should not refer to them. They are usually not vital, and it would be unwise as well as extremely unethical for the attendant to refer to them afterwards in the presence of the family to enhance his own importance or minimize the value of the consultant's services. He is bound to scrupulously carry out the measures agreed upon till such time as changes are required by new conditions.

The attendant can usually truthfully say he has received valuable suggestions, and if he can not, just common decency dictates that he should, both at the time and subsequently refrain from criticising his consultant.

The attendant should if convenient see that the consultant receives his proper fee. When the patient is settling with him for his services, he may properly inquire if the consultant has been paid. This is not only a courtesy to the consultant, but will prevent many misunderstandings. Quite often when the consultant, after waiting a reasonable time sends in his bill, the party will express surprise, claiming he understood it was all included in the bill he had already paid to his physician.

Another matter I wish to emphasize for two reasons, first, because of its importance, and second, because it is so often thoughtlessly neglected. At a proper and convenient time, usually the following day, the attendant should communicate with the consultant either in person or by mail, informing him fully as to the results that have been realized from the treatment adopted. Every consideration of duty to his patient and courtesy to the consultant demands that this be done. To me it seems an essential part of the consultation, but I believe it is the rule rather than the exception to omit it. Those of you who have been fortunate enough to be asked to meet our honored brother W. H. McConnell in consultation, remember those occasions with pleasure because of the gentle courtesy of his treatment of you; and I think you remember with especial pleasure the gracious and appreciative, though brief and modest letter you invariably received from him a day or two later. In your egotism you may have thought it was simply coming to you, and the good doctor was impelled to send it because

of the exceptionally fine service you had rendered. It was simply one of the habits of his professional life, and spoke volumes of a generous, modest nature, and a clear and just conception of the proprieties of professional relations that was more binding than the code of ethics of the A. M. A.

If you as an attending physician faithfully carry out in each case the suggestions I have made you will I think, recognize the reasonableness of my opinion that the attendant should receive a reward equal to that of the consultant.

THE CONSULTANT

A man to be much in demand as a consultant must build a reputation along two distinct lines. These lines are of equal importance, an Irishman would say, "especially one of them."

Of the first it must at this time suffice to say, the more knowledge of diagnosis and therapeutics he possesses the better for all parties in the case. Though speaking only of consultations between neighboring physicians when they are called mainly on the theory that "two heads are better than one," the consultant should be able to bring some real help to the emergency.

Second, the consultant must be ethical, even viewing the matter from the standpoint of his own personal interests. This means he must have a sincere regard for the feeling and the reputation of the attendant. For the time both are in a degree in his hands. In the minds of the people, the fact of him being called in consultation invests him with superior qualifications. He is fresh in the case, sometimes obtrusively and offensively fresh, and his words are received as the words of an oracle. He is in a position to profit by the errors of the attendant, whose prestige may have suffered from the necessity of modifying or reversing his opinions. How discreet should be his words and manner. He must be fair, even generous. He should be thorough and pains-taking in his examination of the patient, but should make no unnecessary display. He needs an unfailing fund of tact and courtesy. To practice these virtues effectively he must actually possess them. He can best promote his own professional interests in the minds of the on-lookers by forgetting that they are involved. I regret to be obliged to say that the opposite course is not infrequently chosen, and an air of superiority assumed calculated to consign to comparative obscurity the faithful attendant. As a rule it will be found most satisfactory for the consultant to not talk a great deal about the case directly to the family. It is more dignified, and I think in every way

better for him to communicate his views through the attendant in the main. He may answer questions that may be put to him by the friends in the presence of the attendant, provided always that his answers do not in any way conflict with the facts as agreed to with the attendant. On the whole I think it is a situation in which "silence is golden." Only exceptionally is it allowable for the consultant to discuss the case with the friends when the attendant is not present, either at the time or subsequently.

If the attendant's grasp of the situation, and his general management of the case impresses him favorably, he should be gracious enough to say so. If necessary to protect a brother who has honestly fallen into an error, a consultant should "lie like a gentleman." For the time he is invested with great possibilities for good or evil. A few words of commendation may re-establish the attendant in the confidence of the family, renew hopes of a favorable outcome of the case, restore the morale of the patient, and incidentally mark the beginning of "a beautiful friendship," and a long series of consultations. On the other hand, the consultant may without openly finding fault, by his manner, by omitting the word of approval, by insisting upon radical or unnecessary changes in the treatment, or simply by a knowing look, or an arching of the eye-brows, more surely than he could by open criticism, destroy the confidence of the relatives, wreck the morale of the patient, and incidentally convict himself of being bigoted ungrateful cad; and when he retires with his unmerited fee, "Quoth the Raven, Nevermore."

Not infrequently after a consultation the patient or family will request the consultant to assume the charge of the case. This he should decline to do, and he should continue to decline even though faced by the alternative of seeing the patient placed under the care of a third doctor. This statement admits of no argument.

Every man has a right to change his family physician. Sometimes they exhibit a degree of intelligence in making a change. Usually I have imagined they have exhibited greater intelligence when they have changed to me than when the change has been in the opposite direction. New doctors coming into a community will gather up a practice, and their patients will be taken largely from the patrons of the established physicians. The causes or excuses which lead to the dismissal of the family physician are many and mostly trivial. The doctor may be to blame; he talks too much, makes promises that can not be realized. In a busy time he gives too little

attention; he is delayed, and though the case is not urgent and the delay may be unavoidable, the patient feels he is neglected. The doctor finds fault. Ye Gods, how often he represses the desire to find fault with the negligence or carelessness of attendants.

Perhaps the most common cause of sick people forgetting Lincoln's sage injunction to not "trade horses in the middle of a stream," is the pernicious activity of well-meaning, meddling friends, who with mistaken zeal strive to displace the attending physician and install their own particular omnipotent medical God.

Doubtless many change doctors for the same reason they change the place of their abode, "it is cheaper to move than to pay rent."

Whatever the cause, one of the most humiliating things connected with the calling is the easy carelessness with which, after you have for years devotedly cared for a family, carried the children through the ordeals of the contagious diseases, habitually smiled your way through fits of feminine nerves and masculine cussedness; after you have waited upon their ailments and waited long for your pay, you will be consigned to the discard like the old Panama hat at the first chilly days of October, and you bow your head, and from the depths of an unprayerful heart say, "Lord, they aint no justice."

Of course we hate to lose our patients, who we imagined considered us the only real life-preservers in existence, and see them fall into hands even more dangerous than our own; but if we are wise we will bid them good-bye with the same cheerful smile with which we have been wont to welcome them, and avoid erecting a barrier that will for all time make it impossible for them to return to the safety of our professional care. If we feel that all the joy has departed from our professional life when we are informed that we are fired, and another real doctor installed in our place, what will be our sentiments at being supplanted by a quack of the osteopathic persuasion, or a smirking disciple of the God-all, all God, good God, non-matter, Mrs. Eddy imposture. I will refrain from answering for myself, lest you be placed in the condition of the man who was using the telephone during a thunder storm. A friend asked him if he had ever been shocked by a 'phone, and he answered, "Yes, it was the day I called my wife during house-cleaning week to tell her I was bringing a friend to dinner."

A very imperative rule of ethics is that before accepting a case that has been under the care of another physician, we should know that the former attendant has been

definitely dismissed, and we should refrain from disparaging remarks about his treatment, or expressing regrets that we were not called sooner.

What I have said will not interest the doctor who thoughtlessly proclaims that he does "not care a darn for Ethics." If he actually feels that way, for him "There aint no ten commandments," neither is there any Golden Rule, nor honor, nor brotherhood, nor virtue. There have been times in the history of the world when no one cared for Ethics except a few forward-looking individuals, who have been the salvation of the world. One of those periods preceeded the tremendous slump in civilization referred to as "The Decline and Fall of The Roman Empire." A later period is spoken of as "The Dark Ages."

—R—

Christian Scientist's Reply

August 6, 1923.

Dr. W. E. McVey,
Editor, The Journal of
The Kansas Medical Society.

Dear Editor: My attention has been called to the article published in the July Journal of the Kansas Medical Society respecting alleged activities of a so-called "Christian Science lobby of the last Kansas legislature."

This story which was read before the Wilson County Medical Society on April 9, 1923 by J. C. Moorhead, M.D., is most cleverly written, and perhaps was intended to amuse. However it would put a laurel wreath where it does not belong in ascribing an efficiency and effectiveness to a "Christian Science lobby" which had no existence except in somebody's imagination, and furthermore, the story misrepresents the attitude of Christian Scientists towards "Children's Code" and medical legislation.

The defeat in the main in that legislative program should not be laid to the Christian Scientists. It was a well established fact, as evidenced by the newspapers of Topeka, that there was dissenion among the members of the Code Commission, some of whom opposed many of the health measures, and none of whom were Christian Scientists. On the evening of Feb. 6, a prominent Topeka club woman and member of the legal advisory committee of the Code Commission appeared before the legislative committees in opposition to the health measures proposed by that commission. "Why, do you know," she said, "it would require 500 women to carry on the provisions of section one of the principal bill urged at this time."

Christian Scientists do not oppose constructive child welfare legislation, neither are they

opposed to any form of medical treatment for those who desire it. They are opposed to having any examination, vaccine, serum or other treatment made compulsory. They merely confine themselves to offering amendments looking to the protection of the rights of parents and children in these respects, and it may be interesting to know that the only health measure passed at the last session included an amendment presented by the one and only registered Christian Science lobbyist. He was not present in the building when the Sheppard-Towner bill was adopted by the Senate, and this constituted the only activity of the "Christian Science lobby" in the legislature.

A letter from the President of the Senate reads in part as follows: "The Senators were always glad to accept any amendments offered (by the Christian Science lobbyist) because of his rule not to interfere with constructive health measures. Only once do I remember his being present during a session." The Speaker of the House said that not during the entire session did the Christian Science lobbyist, or any member of his organization, even so much as mention to him anything regarding welfare legislation or legislation of any other nature.

"It was publicly charged through the press," says Doctor Moorhead, "that never before in the history of Kansas had the lobbyists been as active and successful as they were at this last session." He evidently is referring to an article in the Kansas City Star whose correspondent made up the story which is contained in his paper, as no Kansas newspaper made any mention of any Christian Science lobby.

Sincerely yours,

HARRY L. RHODES,

Christian Science Committee on Publication
for Kansas.

Topeka, Kansas.

—R—

In their report of a study of the Goetsch test for hyperthyroidism, Reed and Hiatt (Med. Clin. N. A. May '23) conclude that the clinical signs and symptoms of this disease fall under three groups. One group is composed of manifestations of toxemia, a second of alteration in the metabolic functions of the body, and the third of disturbances in the vegetative nervous system. The great diversity of types seem to be produced by predominance of one group of signs and symptoms over those of the other groups. With this viewpoint there is no inconsistency in the finding of a high metabolic rate and a negative response to epinephrin.

THE JOURNAL

of The

Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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The young practitioner would never finish telling one how much he knows about medicine; add ten years to his experience and he has become somewhat suspicious of his teaching, but he is sure of the unusual amount of knowledge acquired since he began to practice; add twenty years more and a small volume will contain all he is sure he knows, but it would take the rest of his allotted span of life to tell what he would like to know. As one of our old correspondents has put it, there is too much that must be unlearned. With the steadily advancing educational requirements for the practice of medicine, with the development of a vast array of technical procedure for determining disfunctions and pathological conditions, it would seem reasonable to expect more accurate and more definite lines of treatment. At least they have proved to us that much of what we know was unreliable, that many of the symptoms and signs upon which we depended were inconstant and indefinite in their relations.

In spite of the care and precision that marks the investigations of modern medicine, theories predominate—theories that are too frequently based upon suppositions—suppositions that ultimately prove false.

There are a lot of people whose supreme ambition seems to be to serve the public in some capacity. These are not all philanthropists by any means. Some of them, perhaps, think they see in the people an easier task master than the individual; some of them find the competitive struggle for business in private life too discouraging; some of them, perhaps, like to be in the lime light even though the goat feathers they accumulate add little impressiveness to their crowns of glory. Whatever attraction one may see in them, whatever motive impels one to accept such inadequately remunerative positions, we have no fault to find with anyone, particularly one in the medical profession, who is serving the public under government, state or municipal employ, for their service is of inestimable value to the people.

There is, however, a very rapidly growing host of would be, unofficial public servants, whose good intentions are too frequently misdirected and whose possible beneficent endeavors are discounted and minimized by the indirectness of their attack upon the conditions they hope to remedy. Of recent years the public health and welfare has been the most popular and promising field for such endeavors. There are associations, commissions and conferences, too numerous to mention, largely dominated by laymen—well-meaning, benevolent capitalists—and others—vying with each other in their efforts to mitigate some of the unfortunate afflictions of mankind. Hundreds of thousands of dollars are spent in publicity propaganda, surveys and compilation of data, with little or no effect upon the object of attack.

A National Association for the Alleviation of Corns and Bunions in the Laboring Classes or a Pan American Commission on the Preservation of the Pedal Arch, may spend a few millions in conducting a survey to determine the economic loss occasioned by these disabilities of the feet. Information of considerable value no doubt—to some one—but not likely to reach the people most concerned. Yet it is possible that their information may convince the management of some great industry that its employees should be advised to wear better and better fitted

shoes. This is not an exaggerated illustration of the methods of procedure adopted by a good many of these organized groups. A great amount of work and large sums of money are expended in organization, in publicity and in securing statistical data—much labor and much money that, if used directly for the alleviation of the suffering of the needy, would have accomplished something worth while. In some of the publicity campaigns conducted by these organizations, the money spent for paper alone, if applied directly, would accomplish more good than will result from all their activities.

If the paper used in these publicity campaigns during the past six years could be retrieved from the waste baskets of the newspaper offices of the country and sold at its original cost, enough money could thus be raised to build and endow several hospitals for the care of these afflicted mortals whose special interests these organizations espouse.

In this issue of the *Journal* we have given space for a reply to some statements made by Dr. Moorhead in his paper published in the July number. This letter is from Mr. Rhodes, the publicity agent for the organization in Kansas. Mr. Rhodes denies the existence of such a lobby as Dr. Moorhead describes and presented several letters from members of the legislature that seemed to bear out his contention. Mr. Rhodes stated to us that the people he represented were not opposed to the Sheppard Towner bill, that the feature to which they had objected had already been eliminated. At any rate it must be admitted that there was considerable opposition to this bill outside of Christian Scientists—if anything can be determined by the literature received, the American Medical Association was rather vigorous in its opposition.

The history of legislation in Kansas, covering several sessions of our law making bodies, would indicate that Christian Science influence has made considerable impression on the results of these sessions. Whether this has been accomplished by a one-man lobby or by one official lobbyist with the aid of numerous unofficial assistants is not of

so much moment as the nature of their activities. If they have succeeded in abrogating the police power of the state to the extent of exempting members of their cult from inspection by health officers during epidemics of contagious diseases, to the extent that they may lay and raise the quarantine at their own discretion when contagious diseases exist in their homes, and, though recognizing no pathology determine their observance of quarantine regulations upon their own diagnosis, then one must regard their influence as a dangerous menace to the welfare of the state whether it be exerted by a lobby composed of one man or a hundred.

The people generally seem to think that doctors have some peculiar rules of conduct towards each other which they call "ethics." They are surprised, frequently doubtful, when told that the ethics of the medical profession differs in no particular from the rules that prescribe the conduct of one gentleman toward another in all professions and in all social and business relations.

Should a doctor refuse to consult with an osteopath or a chiropractor the people blame that mysterious "code of ethics." They do not recognize that a conference of that kind could in no way benefit the patient, that there is no common ground upon which a conference could be held; which is the real reason for refusing to meet a member of any of these cults in consultation. It is a good and sufficient reason. But if one declines to consult with one of these practitioners yet sends the patient to him for treatment, he can only justify himself by admitting that the irregular practitioner is more competent, or better able, to administer the required treatment than he is himself. These irregulars do not bear the same relation to the profession as specialists, either in their education or practice for they propose to treat all kinds of disease in the same way.

The optometrist occupies the same position in his relation to the medical profession as does the osteopath or chiropractor. The ophthalmologist received his degree in medicine and by special training in diseases of the eye has fitted himself for special prac-

tice. The optometrist, on the other hand has only had a little training in correcting errors of refraction with leuses. Quite a few physicians send their patients to an optometrist to have their eyes fitted with glasses. The principles of ethics that apply in such a case do not differ from those that apply to the business transactions of any reliable institution. If one sends his patient to the optometrist instead of to the oculist he is assuming the responsibility of deciding that the disturbance of vision of which the patient complains is due to an error of refraction. If one is not competent to do this he should send the patient to one who is. If harm results through neglect of a pathologic condition of the eye which would have been discovered by an oculist the physician is more to blame than the optometrist who is only supposed to know how to fit glasses. The truly ethical physician must always consider the interests of his patients. This ethical principle is being observed more and more in the business world. Many newspapers now refuse to accept advertisements that are misleading or untrue. A good many wholesalers and manufacturers refuse to sell goods to retailers that cut prices, but only a few of them refuse to sell to those who overcharge their customers or misrepresent the quality of the goods. An optimist will predict the universal adoption of this principle in the business world. It may be coincidence but is more likely due to the tolerance of the medical profession that those with whom their business relations are most intimate are the most lax of all business men in observance of this principle. The shelves of most pharmacists are filled with patent nostrums which he recommends to his patrons with perfect equanimity. The recipe from the porter in the barber shop is filled as readily as the prescription of the registered physician. He justifies himself on the ground that his business demands that he sell the people what they want.

At this time it would indeed be an innovation for a pharmacist to refuse to fill a prescription from an osteopath or a chiropractor on the ground that he was confessedly unfamiliar with pathology and pharmacotherapy. Would this business ultimately suffer

by so doing? So far as we now know no one has had the hardihood to try the experiment. What the attitude of the profession would be towards such a policy; whether the medical profession is really as tolerant as it appears to be; are questions that cannot now be answered. It has just come to our knowledge that an optician in Kansas City has announced that he will fill only such prescriptions as come from physicians, and he no doubt awaits with anxiety the attitude the profession will take toward this policy. Should his policy eventuate in the general support of the oculists in the medical profession others will no doubt adopt a similar policy, but the ultimate result will be two classes of opticians—those who supply the medical profession and those who supply the optometrists. The same thing would result from the adoption of a similar policy by the pharmacists. As long as there is a demand there will be a supply—if the constitution and the laws permit.

CHIPS

Dr. R. S. Magee, for many years one of the leading ophthalmologists in Topeka, but now a resident of Los Angeles, has been appointed general inspector of eyesight and hearing of the employees of the Santa Fe Railroad. A private car has been specially fitted up for the purpose and he will spend six months or more on the road.

Dr. D. C. Munford, Motezuma, is preparing to take a long automobile trip. He expects to spend several months touring the western part of the country with his family.

Dr. Wm. Prout, formerly of Concordia, now an officer in the United States Army and for the past three years stationed in the Philippines, has returned to this country and is now stationed at Denver. Since entering the government service his work has been confined mostly to roentgenology.

Now is an excellent time to suggest a careful perusal of the rules for preparing manuscripts—as explained in the August number of the *Journal*, in the advertisement of the "Corona."

"Delayed congenital syphilis is not a rare disease and should be diagnosed more frequently than it is," says Spockman (*London Lancet* '22). Aortitis or aneurysm may have

a congenital origin and not be the result of acquired syphilis. All cases of syphilis, congenital or acquired, should be given intensive and thorough treatment if any permanent benefit is to be expected. Diseases of the eye—keratitis, iritis or choroiditis—are among the earliest signs to appear.

Newburgh in a study of high fat diet in the treatment of diabetes (*Med. Clin. N. A.* March, '23) states that patients whom fasting does not render aglycosuric may be made sugar free by feeding approximately 900 calories daily, chiefly in the form of fat; and that patients with impending coma lose their acidosis while taking this diet; that diabetics by means of this type of diet may be fed sufficient calories daily to permit considerable physical activity.

"Jandice in surgical cholecystitis is often erroneously diagnosed as cholecystitis with stones or obstruction of the common duct," says Howard R. Hartman in the *Medical Clinics* (July No.) "The etiology of the jandice is explained by pancreatitis as definitely as the surgeon is able to determine, and the pain usually by pancreatic colic. All disease of the gallbladder is a pan-biliary infection. Removal of the gall bladder frees the patient from a part of the pathologic processes. At present surgery is the rational treatment, because it removes a mass of infected tissue and automatically makes possible an augmentation of resisting powers to the residual infection. The necessity of removal of primary foci cannot be overlooked.

Lisser and Nixon reported six cases of dyspituitarism and epilepsy that were treated by organotherapy (*Medical Clinics N. A.* May '23). In four of them the treatment was continued from one to one and a half years with marked beneficial results on the menstrual disturbances, obesity and mental and emotional status. In those in whom the treatment was continued sufficiently long the epileptic seizures either ceased entirely or became less frequent and milder.

Dr. Helen Mackay (*Lancet*, July, '23) suggests that many cases of anaemia in children, particularly in those artificially fed from an early age, are probably associated with iron starvation, more especially as it has been experimentally demonstrated that the iron retention of an infant on cow's or goat's milk is much lower than on human milk. The administration of inorganic iron salts by mouth brought about improvement if continued long enough. No improvement was noted in the hemoglobin content of the blood within three to four weeks from the beginning of

treatment and improvement might be delayed for six weeks. After the improvement began progress was rapid.

"I have no evidence that x-rays can overcome hyperthyroidism even to the point of myxedema, as is sometimes claimed; but, on the other hand, I have never found that it makes a future operation more difficult on account of the fibrosis. If I had evidence that it produced any fibrosis I should believe that it could control the hyperthyroidism. I have never seen it produce any change in the thyroid, but it may cause dangerous and unsightly changes in the skin," said Mr. A. J. Walton, in the *London Lancet*, August 11. In his group of 139 cases 14 had received prolonged x-ray treatment with little or no benefit.

Boenheim, Berlin, claims good results from the administration of the extract of thymus gland in certain cases of hyperacidity of the gastric secretion associated with hyperthyroidism. It is explained on the theory that one of the functions of the thymus is to diminish the rate of mobilization of the chlorides, whereas the thyroid increases it. Increased function of the thyroid leads to increased mobilizations of the chlorides. This causes hyperchlorhydria, which in its turn leads to hyperacidity and increased secretion of the gastric glands. The administration of thymus checks this process. In other forms of hyperacidity no effect from thymus has been observed.

P. Van Hant, discussing the mental disorders in uremia (*Allg. Ztscher f. Psychiat.* Apr. '22) draws the following conclusions:

"1. The uremic psychosis usually consists of an acute, often delirious, confusion without any particular characteristics.

"2. Urotoxic psychosis (stupor due to intoxication by retention products) and nephrotoxic psychosis (delirium due to nephrolins) rarely occur in pure form. The usual uremic psychosis is a mixture of the two.

"3. In psychopathic, predisposed individuals, uremic psychoses may resemble genuine psychoses.

"4. Numerous cases with a close relationship to arteriosclerosis show a more chronic course and are difficult to distinguish from psychoses due to organic brain disease, such as true arteriosclerotic insanity, cerebral syphilis and parietic dementia.

"5. Neuropathic constipation seems to favor strongly the appearance of psychotic symptoms in uremia.

Boardman and Gilman report several cases of cholecystitis simulating gastric malignancy.

nancy. (Surg. Clin. N. A. June '23). Their conclusions are that an enlarged gall bladder and adhesions may produce a filling defect in the stomach at times indistinguishable from that produced by gastric carcinoma. No matter how definite and advanced a case of carcinoma appears from the history, examination and laboratory findings, short of metastases, an exploratory operation is indicated.

U. J. Wile says syphilis cannot be treated in a routine fashion (Med. Clin. N. A. Mar. '23). He states that he sees many cases each month in which treatment has been injudicious, when patients should not have been treated at all, when treatment has been responsible for even greater danger than might have been expected from the syphilis itself. Adequate treatment for a young man is far too severe for the seile syphilitic. It is a mistake to treat the so-called Wassermann-fast cases. Too many such patients are treated not for syphilis, but for the Wassermann test. The biologic test in itself is not of necessity an indication for therapeutic intervention.

The National Industrial Conference Board has just completed an exhaustive report on the medical phase of workmen's compensation acts in the United States. Many very serious defects in the laws of several states have been noted and some very surprising variations are also noted. The report is encouraging however in regard to medical treatment. The report says: "A period of experience has now elapsed sufficient to enable those who make the laws and those who administer them to obtain a better view of the problem. Such experience has shown the advisability of greatly increasing both the time and amount of medical service rendered, until at this time in 20 states such service may be unlimited."

The term "medical service" receives widely different interpretations in various states. Ohio and Connecticut have freed employers from liability when injured workmen took their troubles to quacks, masseuses and "doctors of medical electricity." Similarly the California State Commission refused to reimburse a worker who consulted a Chinese herb doctor. Iowa and Connecticut do not regard osteopaths as qualified to act in compensation cases, while California permits them. In Wisconsin Christian Science treatment may be resorted to by an injured worker with his employer's consent. There a death from a bruised shinbone infection which was treated by prayer was held compensable. However, a Boston elevated railway employee who presented a \$14 bill for

services by a Christian Science practitioner lost his claim.

States differ in the laws' rulings on various surgical operations. For instance, the hand extends to the elbow in the legal opinion of Alabama, Connecticut, Delaware, Kansas, Nebraska, New York and other states, while it extends only to the wrist in Colorado, Idaho, and Montana. The human foot in Colorado extends to the ankle, but in Alabama it extends to the knee. New York takes a middle ground, merely qualifying it as some place "between the knee and the ankle." A Pennsylvania worker lost the power to walk easily with one foot and received compensation, while in Minnesota the Supreme Court refused to affirm a similar award because "the foot was still there," but authorized partial compensation.

Various state courts and commissions have answered in various ways the question: "What is the human body worth?" For example a thumb is worth \$225 in Wyoming, \$600 in Oregon, and in New York and Alabama the legal compensation for 60 weeks. Wyoming holds a human hand worth \$1000, while its value rises to \$1600 in Washington, \$1900 in Oregon and 44 weeks' compensation in New York, and it is worth 104 weeks' compensation in Colorado. Similar variations in legal value occur with reference to the loss of an eye, a toe, a foot and fingers.

The American Child Health Association announces that \$10,000 will be awarded in scholarships to physicians who want to improve their qualifications for child health work. Candidates will be given freedom of choice of institutions with approved courses.

Newspapers have carried extended notices of the Dreyer so-called "defatted" tuberculosis vaccine. The experiments of Professor Dreyer of the Department of Pathology of Oxford University depend on the production of an antigen preparation from tubercle bacilli which are previously deprived of their waxy envelop by treatment with a formaldehyde solution. Animal experiments and some clinical trials have been reported which give ground for the hope that the new antigen may prove of value. Professor Dreyer's work does not offer sufficient evidence to warrant the conclusion as yet that any marked improvement has been made in the treatment of tuberculosis. (Jr. A. M. A., July 14, '23.)

The published mortality rate from ethyl chlorid anesthesia varies from 1 in 15,000, which is also the mortality rate of ether anesthesia, to about 1 in 6,000. From these

statistics, therefore, one might judge that ethyl chlorid stands between ether and chloroform; but it is probably closer to the latter, which gives a mortality of about 1 in 3,500. Ethyl chlorid, however, is used for minor anesthesia, and it is unfair to compare it with the major anesthetics for prolonged operations. The fair comparison for ethyl chlorid is with nitrous oxid, the accepted mortality rate from which is about 1 death in 1,000,000 anesthetics. Hence, whether for induction of anesthesia or for minor anesthesia, ethyl chlorid is somewhere between 200 and 66 times more dangerous than nitrous oxid. It is, on the other hand, somewhat safer than chloroform. The essential danger from ethyl chlorid lies in the suddenness of the death which may occur within half a minute from the beginning of the inhalation. The danger signs are such as may be overlooked by any but the most experienced anesthetist. (Jr. A. M. A., July 28, '23.)

The much mooted question as to whether the carbon monoxide present in tobacco smoke constitutes a hazard to the smoker in confined indoor spaces seems to have been settled as a result of tests just completed by the Department of the Interior at the experiment station of the Bureau of Mines at Pittsburgh, which demonstrated the danger to be negligible.

The tests, which were performed in the course of general studies of the Bureau of Mines relative to gas hazards in mines, were made on three men confined in a closed chamber whose dimensions were 1,000 cubic feet. The three subjects puffed merrily for the space of an hour and a half at cigarettes of every variety, Turkish, Egyptian, the old Virginia brand, and the type wherein the smoker "rolls his own." Following this, the smokers drew energetically at an infinite variety of cigars—cheroots, Pittsburgh stogies, black Manilas and Havanas of choice degree. Finally they puffed frantically at pipes, at pipes of clay and cob, at pipes of meerschaum and brier. At the conclusion of the performance the air of the closed chamber had become so smoky that it was impossible to see across the room. The atmosphere was so irritating to the eyes that it was necessary to wear goggles.

Samples of the atmosphere and blood samples of the smokers were then taken for analysis. It was found that in no instance did the carbon monoxide content of air exceed 1-100 per cent. The maximum blood saturation was 5 per cent. Some of the subjects supposedly inhaled their smoke, but the tests indicated that such inhalation, though it may

have extended to the bronchial tubes, did not penetrate throughout the lungs. The tests indicate that carbon monoxide hazard from smoking indoors or in mines is negligible in itself, though the Bureau of Mines investigators consider that it may add to the smoker's hazard should he be caught by carbon monoxide from sources such as occur in the mining industry.

Among the forthcoming important meetings of special societies is the annual convention of The American Roentgen Ray Society. This is to be held in Chicago with headquarters at the Congress Hotel, the time of the meeting being from Sept. 18th to 21st. A number of eminent foreign contributors will appear on the program, and the announcements indicate that treatment by high voltage x-ray will have a prominent place on the program.

The annual meeting of the Tri-State Medical Association comprising the entire states of Iowa, Illinois, Wisconsin and Minnesota and districts of surrounding states, will be held at Des Moines, Iowa, October 29th, 30th, 31st and November 1st.

The entire time of the assembly will be taken up with scientific addresses, essays, symposiums and diagnostic clinics. Among those to appear on the program are: Albee, Hugh Cabot, Richard Cabot, Crile, Deaver, Dean Lewis, Chas. J. Mayo, Wm. J. Mayo, Ernest Sachs.

The Kansas physicians are most cordially invited to attend and participate in the program. The headquarters of the assembly will be the Fort Des Moines Hotel and the scientific and clinical sessions will be held in the beautiful new Woman's Club building. Hotel reservations should be made early by communicating with the Fort Des Moines Hotel or Dr. Walter B. Bierring, Iowa member of the program committee, Des Moines.

—R—

Reminders by the Prodigal

When halitosis is present suspect the endocrines.

Auscultation was put on the diagnostic curriculum when Theophile Hyacinthe Laenec discovered the stethoscope in 1815.

The milk-maids of England taught Jenner the curative value of cow pox and the peasant women of Poland taught the medical profession the cause of "gale repercuta"—itch.

Dr. Hahnemann, we are told, did not hesitate to say, as a positive maxim, that gale caused three fourths of the diseases of man.

How many of us know what disease gale is and its treatment without looking it up?

Aristotle said that the brain was a sponge to keep the blood cool. The inference is, there were hotheads in those days.

Hippocrates, the "Father of Medicine," did not know the difference between a vein and an artery. Neither could he distinguish between a nerve and a tendon. And yet he was up on the endocrine secretions; else why did he define health as "a condition in which each humor is in due proportion of quantity and force, but especially properly commingled."

The credit is due the peasant women of Poland for learning that itch (gale) was due to a mite in the skin. They dislodged the little fellow with the point of a needle. A young man, F. Renucci, learned the secret and when he went to Paris to study medicine demonstrated it to his teacher, Dr. Albert, who became convinced of the fact and the doctor's prestige was authority for its acceptance.

It was Dr. Oliver Wendell Holmes who christened the effect of sulphuric ether on the animal in deadening pain—anesthesia.

A woman sued a man for breach of promise. She said he had broken her heart. She got a judgment for \$10,000. Soon after a mule kicked her caving in eleven of her ribs. She sued the owner of the mule for \$10,000 damages for the injury. She got judgment for one dollar and thirty cents.

Moral: If you have to do with a woman don't monkey with her heart. Kick her ribs in. It's cheaper.

Scientific criminology is now taking a quantity of the air in a room where a crime has been committed, and comparing it with the odor emanating from the suspected criminal as evidence for or against him. It is on the Abrahamic theory, where the blood of the child is supposed to react the same as the parent, thus detecting the fatherhood of the child.

The normal amount of adrenalin in the blood is one part in one million. Or one drop of adrenalin to one million drops of blood. This proves, in practice, nature is a homeopath?

Man's food is mostly carbon. But the carbon of food and not of coal. The carbon in the food has been specialized spiritually and etherially energized—vitaminized.

One-tenth of all deaths in Christendom of human beings was due to smallpox before

Jenner discovered the preventive vaccination. A pitted face was as common in the 18th century as it is in Mexico today in the 20th.

It was Napoleon Bonaparte, First Consul, who put percussion on its feet as a method of diagnosis. Pince and Portal were his physicians but he became dissatisfied with them during a sickness—pneumonia—presumably—and he called in Corvisart. In the examination Corvisart percussed him. Napoleon recognized the scientific method of diagnosis in finding pathological conditions by percussion and selected Corvisart for his medical advisor. Corvisart had practiced percussion for a number of years and laid no claim to the method. It appears that as early as 1761 Avenburgger, a German physician, had written a book on percussion. Owing to the obscurity of the two physicians and the ignorance and obstinacy of the profession at the time (?), percussion failed to get a foothold to any extent as a means of diagnosis. It was the prestige of Napoleon that proved to be a vis a tergo and pushed the practice to the fore front.

Endocrinology was practiced centuries ago, and is practiced at the present time, in the rough, by some of the tribes in the "South Sea Islands." The cannibal believes that the strength of the body of the enemy he conquers passes into his own body when he eats him. Hence he eats the whole body which includes the ductless glands. The medical man has refined his cannibalistic ideas and tastes and confines his menu to the glands alone of his fellow man and relatives.

Moral: There is nothing new under the sun—in medicine.

Oxygen was discovered by Priestly in England and Scheele in Sweden in 1774. Priestly named it dephlogisticated air. Scheele called it empyreal air. The phlogiston theory was extant in those days. The Denver mud man revamped the name, put the prefix anti to it, thus extinguishing the burning.

The shotgun prescription has been vindicated. Postmortem, at an inquest on a man 76 years old, showed that aside from the disease causing death, he was suffering from heart disease, cirrhosis of the liver, kidney trouble, tubercular bronchitis, plenisy, rheumatic fever and meningitis. Such a coalition of diseases justifies polypharmacy.

It was Lavoisier and his confreres in 1778 completed a work on Chemistry and classified chemical knowledge. Up to this time there was no system, names being given to substance according to the whim of the chemist.

Such names as liver of sulphur, mercury of life, etc. Hence scientific chemistry is young, but a giant and not one of the wonders of the world but the doer away with wonders and so called miracles. Miracles do away with nature's way of doing things and hence miracles destroy themselves.

What one generation of men know has to be learned all over by the succeeding one. To progress, each generation must add a little bit more knowledge to what it receives from the past one. This is nature's plan to keep everybody busy. And it works pretty well. If the medical man had to learn what is known only in medicine the task would be an easy one. It is what is not known but thought to be known and has to be learned, to be forgotten, that hinders progress and slows down speed, and uses up the most gray matter.

There are enough known facts in medicine to make it one of the greatest, not great, professions. As yet it has to carry too much dead weight. To get rid of this excess camouflaged knowledge is work for the scientist. By scientist in medicine is meant any physician who can comprehend facts and classify them. His laboratory is his office and the sick room. Facts learned by the laboratory findings of the other man must be work proofed over by the second hand prospective user of them before he can make them his own and use them successfully. Otherwise the second hand user of borrowed facts sustains the same relation to the treatment of his patient that the parlor farmer sustains to applied agriculture. Or the bookworm carpenter to the practical builder. Failure in the practice of medicine is caused generally by second hand knowledge not having been worked out. Or authority has been taken for truth instead of truth for authority. "What is truth?" Truth is what is. The human mind is limited in its potentiality. It cannot encircle or comprehend everything with which it comes in contact. Experience teaches that it is not best for man's highest interest that he should make the attempt of the impossible.

There is so much crudity, slag, dead weight in our educational system that the best equipped, wisest and most successful physician is the one who can and does unload the most of it and thus simplify his practice. The difficulty in comprehending health and disease in the human body is its simplicity. There is a cause for every disease and a remedy. It is up to the medical man to find the remedy. And he is hot-footing it at break-neck speed, handicapped as he is. The prospect is encouraging. You can't down a Christian.

SOCIETIES

DECATUR-NORTON COUNTY SOCIETY

The Decatur-Norton County Society met at Goodland, August 23. The following program was presented:

Clinic—Methodist Hospital.

"The County Health Officer," Dr. Jennie McNollough, Goodland. Discussion, Dr. A. C. Gulick, Goodland.

Paper, Dr. J. A. H. Peck, St. Francis.

"Pet Therapies—Their Facts, Fancies and Fallacies," Dr. B. H. Rouse, Goodland. Discussion, Dr. C. S. Kenney, Norton.

"When to Operate in Acute Appendicitis," Dr. W. W. Grant, Denver. Discussion, Dr. W. C. Lathrop, Norton.

R

DEATHS

Edgerton Ryerson Switzer, aged 86, a pioneer physician of Salina, died at his home, August 15, 1923. He began the study of medicine at McGill University, Montreal, and graduated in 1865. He moved to Salina in 1869 and resided there until his death.

R

BOOKS

New and Nonofficial Remedies, 1923, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1923. Cloth. Price, postpaid, \$1.50. Pp. 415—XXXVI. Chicago: American Medical Association, 1923.

New and Nonofficial Remedies is the publication of the Council on Pharmacy and Chemistry through which this body annually presents the American medical profession with disinterested, critical information about the proprietary medicines which are offered to the profession, and which the Council deems worthy of recognition. In addition to the descriptions of proprietary preparations, the book contains descriptions of those non-official remedies which the Council deems deserving of consideration by the profession.

A valuable feature of the book is the grouping of preparations in classes. Each of these is introduced by a general discussion of the group. Thus the silver preparations, the iodine preparations, the arsenic preparations, the animal organ preparations, the biologic products, etc., each is preceded by a general, thoroughly up-to-date discussion of the particular group. These general articles compare the value of the products included in the group with similar pharmacopeial and other established drugs which it is proposed that these proprietary preparations shall supplant.

Physicians who wish to know why a given

proprietary is not described in New and Non-official Remedies will find the References to Proprietary and Unofficial Articles not found in N. N. R. of much value. In this chapter (in the back of the book) are given references to published articles dealing with preparations which have not been accepted.

New and Nonofficial Remedies should be in the hands of all physicians who prescribe drugs. The book contains information about the newer materia medica which cannot be found in any other publication.

The book will be sent postpaid by the American Medical Association, 535 North Dearborn Street, Chicago, on receipt of one dollar and fifty cents.

The Medical Clinics of North America. Vol. 6, No. 5, March, 1923, Ann Arbor number. Vol. 6, No. 6, May, 1923, San Francisco number. Vol. 7, No. 1, July, 1923, Mayo Clinic number. Published bi-monthly by W. B. Saunders Co., Philadelphia. Price per year, \$12.00.

In the Ann Arbor number reports are contributed from the clinics of Warfield, Newburgh, Wile, Hugh Cabot, Hasley, Barrett, Camp, Stern, Wilson and Hills, Marsh, Herrmann, Yoimans, Greene. From the department of Pediatrics and Infectious Diseases there are clinics by Cowie, O'Donnell, Greenthal, Brown, Parsons, Hoag.

In the San Francisco number there are clinics by Cheney, Kerr and Bruck, Lucas, Porter and Gelston, Dickson, Kilgore, Reed, Wycoff and Pringle, Falconer and Morris, Lisser and Nixon, Briggs, Harvey, Ebright, Pierson, Reed, Miller, Hein, Catton, M. C. Cheney, Taussig, Spiro.

In the Mayo Clinic number are contributions by Wilder, Vinson, Joseph and Hardt, Foncar, Hartman, Brown, Logan, Bine, Hench, Barrier and Keith, H. C. Bumpus, Jr., Amberg, Desjardine, Stacy and Melson, Rowntree, Willins and Boothby, Brown, Bowing, Giffin and Holloway, Magath, Stokes, Wagener, Doyle, Lemon, Woltman.

The Surgical Clinics of North America. Vol. 3, No. 1, Feb., 1923, Philadelphia number. Vol. 3, No. 2, April, 1923, New York number. Vol. 3, No. 3, June, 1923, San Francisco number. Vol. 3, No. 4, Aug., 1923, Chicago number. Published bi-monthly by the W. B. Saunders Co., Philadelphia. Price per year, \$12.00.

In the Philadelphia number cases are reported from the clinics of Deaver, Frazier, Ashhurst, Thomas, Jopson, Muller, Eliason, P. G. Skillern, Jr., Arthur E. Billings, Ripshutz, Ravdin, Francis C. Grant, and a contribution by J. Leslie Davis.

In the New York number are cases reported from the clinics of Albee, Downs, Bolling, Heyd, Walton Martin, Beer, McWilliams, Smith, Stookey, Constantine J.

MacGuire, Jr., Weigel, Lewisohn, Stetton, Stevens, Commors, Bancroft, and a contribution by Nathan W. Green.

In the San Francisco number cases are reported from the clinics of Rixford, Lynch, Brunn and Fleming, Cowan, Woolsey, Weeks, Eloesser, Naffziger, Baldwin, Hinman, Barkan, Towne, Haas, Enige, Newell, Smith, Spalding, Boardman and Gilman, Bartlett, Butler, Pierce, Rhodes, Maxwell, Searle.

In the Chicago number cases are reported from the clinics of Bevan, Wyllis and Edmund Andrews, David C. Straus, Albert J. Oschner and F. J. H'Doubler, McArthur, Gatewood, Halstead, Kretschmer, Eisen-drath, Carl Beck, Alfred J. Straus, Ryerson, McWhorter, Herbst, Kellogg Speed, E. L. and L. D. Moorhead, David, Kreuscher, Emil G. Beck, Culbertson.

Physiotherapy Technic. A Manual of Applied Physics, by C. M. Sampson, M.D., formerly of the Physiotherapy Service, Walter Reed U. S. Army General Hospital, Washington, D. C., etc. Published by C. V. Mosby Co., St. Louis. Price, \$6.50.

This book covers not only Electrotherapy and Actinotherapy, but also Hydrotherapy, Massage, etc. Its author has had a vast experience in government reconstruction work along these lines, and is able to write convincingly on the subjects treated. His explanations of technic are lucid and thorough, and the reader is given new respect for therapeutic methods which have long suffered from false prophets and fake teachers. The book will prove unusually helpful to the beginner in physiotherapy.

————— B ————— Digitalis Tinctures

It is no longer necessary for the physician to take the chances on digitalis he had to take a few years ago. Then he could do no more than try it out on the patient. Now it is assayed by test on animals, and preserved by various devices, among which are the placing of the tincture in small amber-colored vials, the addition of carbon dioxide to prevent access of atmospheric oxygen, and the dating of the package.

Digitalis leaves vary greatly in their content of the active medicinal principle, and while a tincture made from leaves of any strength can be built up to standard by evaporation, a safer and better way is to use standardized leaves—leaves that have been shown by physiologic test to be so active that a tincture made from them by the usual method will not require any concentration.

At the same time it must be remembered that digitalis tinctures will go to pieces, gradually, and it is an advantage therefore to

have the tincture above the U. S. P. standard to begin with.

All these conditions seem to be fully met in the special tincture of digitalis which the makers, Parke, Davis & Co., designate as Tincture No. 111, a recent addition to the P. D. & Co. list.

II

Cervical Ribs and the Brachial Nerves

Percy Sargent⁴ contributes a lengthy and valuable article entitled "Lesions of the Brachial Plexus Associated with Rudimentary Ribs," on the basis of sixty-five cases in which he operated himself. Of sixty-two patients the average age was 35 years; 55 were females and 7 males. With the exception of three school children (ages 12, 13 and 15 years), one artist, and one patient who might be classed among the "idle rich," all were engaged in active and often strenuous pursuits. Sargent had observed the symptoms to come on suddenly as the result of trauma or heavy lifting which bring nerve and "rib" into sudden and violent contact. When the symptoms are of gradual onset, he thinks they might be produced by the continual friction of the nerves against the non-ossified costal process caused by the movements of the arm and by the respiratory movements. Sargent frequently has been able to observe during an operation how the nerve is pushed upward and rolled over as the band tightens during inspiration and in certain positions of the arm. The band referred to is the fibrous band springing from the costal process of the seventh cervical vertebra and usually attached to the upper surface of the first thoracic rib behind the axis of movement of that rib. As the anterior end of the rib rises in inspiration, the posterior part tends to sink so that the band is made taut and comes into harmful contact with the nerve which lies against it. As soon as the band is excised the nerve at once sinks to a lower level in the wound and is relieved of all tension. The nerve compressed is usually the eighth cervical nerve or the cord formed by this nerve and the first thoracic nerve.

Sargent recognized the five types of "rudimentary rib":

1. An exaggerated costal process of the seventh cervical vertebra, not jointed to, but fused with the transverse process and continued forward and downward as a fibrous band to be attached to the first thoracic rib behind the scalene tubercle.

2. A short rib articulated to the seventh cervical vertebra by costo-central and costo-transverse joints and continued onward as

a fibrous band to be attached to the first rib as in Type 1.

3. A jointed rib of sufficient length to carry the eighth root upon its bony portion and attached by a fibrous band to the first rib.

4. A jointed rib of which the anterior extremity makes contact with the first thoracic rib, the two being either fused or united by an irregular articulation.

5. Rudimentary first thoracic rib, the anterior fibrous portion of which is attached to the sternum, usually by a rudimentary costal cartilage.

Oculo-pupillary symptoms from affection of the sympathetic were observed in only one case and these subsided after operation. The author quotes Thorburn as stating that he never saw oculo-pupillary signs and that the only case in Schonbeck's series had co-existent syringomyelia.

The vascular symptoms in Sargent's cases have been due always to vasomotor disturbances. He did not observe any instance of arterial thrombosis and gangrene and only two of slight dilatation of the subclavian artery. In one case the artery was definitely narrowed at the point where it crossed the bony mass resulting from the fusing of the cervical with the thoracic rib.

The nervous symptoms are grouped into those of damage to: (1) Somatic afferent fibers, namely neuralgic pain and disturbances of cutaneous and deep sensibility. (2) Somatic efferent fibers, namely weakness, wasting and alteration of electrical excitability in the affected muscles. (3) Sympathetic fibers, namely circulatory disturbances (coldness, cyanosis, edema) and certain paresthesiae (tingling, numbness and feelings of coldness or swelling.

"The weakness of which so many patients complain is sometimes described as clumsiness or inability to perform the finer acts demanded of the hand especially after the hand has been in use for sometime. Thus writing, sewing, typewriting and piano playing may be rendered difficult or impossible. This symptom is often complained of by those with no visible muscular wasting and is presumably dependent upon a disturbance of deep sensibility. In early cases it is inconstant, only occurs as the result of exertion and quickly passes off with rest. We find that sixteen out of fifty patients were engaged in pursuits requiring constant use of the hands for fine and specialized movements."

A detailed description is made of the sensory changes and the distribution of muscular atrophy.

Treatment: Sargent makes the optimistic statement: "All the symptoms which may be caused by a cervical rib are capable of relief or cure." He puts the indications for treatment as follows:

"Operation is not called for in all cases. In some a change of occupation is sufficient; in others a greater use of the other arm to relieve the affected side. The wearing of a sling is often beneficial. Yet again the development of the muscles which support the shoulders by massage, muscle training and other means is a useful line of treatment. Patients, however, who are obliged to continue following certain occupations and who can not give up the time necessary to muscle training, should be submitted to operation. Other forms of treatment, such as those mentioned, may be required in addition."

"The details of the surgical operation need not be given here. Suffice it to say that its object is not merely to remove an abnormal bone but to divide or excise any non-bony fibrous structure against which the nerves are being damaged. In one case, for example, a clean subperiosteal resection had no effect upon the symptoms; subsequent resection of the periosteum gave complete relief."

Results of Operation. Sargent had no fatalities, and ill effects were observed in only two cases, a prolonged organic monoplegia in one case and hysterical paralysis in another. The results as regards the principle symptoms are carefully tabulated and summarized as follows:

Pain was cured in nineteen cases and relieved in eight. Muscular wasting was cured in twelve cases, relieved in twelve and unrelieved in seven. Vasomotor symptoms were cured in fourteen cases, relieved in six and unrelieved in two. (*P. Bassoe, Practical Medicine Series, 1921, pp. 138-141.*)

4. Brain, July, 1921.

Pseudotumor Syndrome Dependent on Acute Swelling of the Brain

Comment is made on the etiologic and pathologic obscurity still prevailing as regards the so termed pseudotumor syndrome. Particular attention is directed to the possible etiologic role in this regard of the acute swelling of the brain (akute Hirnschwellung). The author feels that this is brought about through ameboid changes in the neuroglia cells with consequent increase in gross brain volume.

An illustrative protocol is cited in which the patient (a woman, aged 34) presented herself at the author's clinic with a history of hebetude, general weakness and severe headaches of recent onset and, on neurologic

examination, sluggish unequal pupils, exaggerated deep and superficial reflexes, patellar cloni and occasional Babinski reaction. Examination of the spinal fluid was negative except for an indication of increased solids. Death occurred three days later, following a period of stupor, with the neurologic examination indicating profound general motor paresis, strongly positive bilateral Babinski response, patellar and ankle cloni, incontinence, extremely severe headache, slight rise in temperature and, as regards the fundi, evidence of papillitis and optic atrophy bilaterally. Postmortem examination was grossly negative except for an indication of slight congestion of the meninges. Microscopic examination showed profound chromatolytic changes affecting cells throughout the cortex. The neuroglia cells showed in addition marked ameboid change, particularly intense periventricularly and much less so in the gray matter itself. This change was characterized by swelling of the cells, process loss, hyperchromatic nuclei with halo formation, cytoplasmic, hyperchromism and evidence of severe granular, fatty, vacuolar and cystic degeneration. (*U. I. Urechia, Rev. Neurol., Dec. 1920. Abs. by Raphael Arch. Neur. and Psych.*)

Bismuth Preparations in Syphilis

Bismuth Preparations in Syphilis

The Council has issued a statement of the present status of bismuth preparations in the treatment of syphilis. In this report the history of the use of bismuth salts in the treatment of syphilis is reviewed, the evidence for the value of bismuth salts as compared with mercury preparations and arsphenamine is considered and the dosage and danger of untoward effects are discussed. The statement of the Council concludes with the following summary:

1. Bismuth preparations have a sufficient experimental basis both for their favorable effects and limitations. The advantage consists in their distinct action on experimental syphilis. The limitations are clear, if one considers the disproportion between the large dose, which is necessary to sterilize an animal, and the small dose, which can be tolerated by man. The available information appears to show that bismuth preparations will not cure syphilis, when used alone.

2. Bismuth treatment is not usually injurious if the necessary precautions (observations for beginning stomatitis, examination of urine, etc.) are observed. Intravenous injection is to be strictly avoided. The therapeutic effect of bismuth is rated by the majority of authors between arsphenamine and mercury. Bismuth compounds may be valuable

in cases in which the patients are intolerant to the other drugs used in the treatment of syphilis or resistant to them, as shown by a persistent positive Wassermann reaction. (Jr. A. M. A., Aug. 25, '23.)

—R—

The Thyroid Hormone

The fact that the iodine-bearing compound, thyroxin, which has been isolated from thyroid tissue, has a marked physiologic potency has led many persons to speak of it offhand as the "active principle" of the thyroid glands. However, Reid Hunt has carried out tests which indicated that for certain functions at least, thyroxin shows less potency than an equivalent dose of iodine in the form of the entire thyroid gland. One is led to ask, whether the iodized protein fragment represented by thyroxin retains all of the specific physiologic action of the real thyroid hormone. Hektoen, Carlson and Schulhof report that they have detected the presence of a thyroid product, thyroglobulin, in the lymph issuing from the thyroid gland, but failed to detect the same protein in the blood stream. (Jr. A. M. A., Aug. 25, '23.)

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Coating for Pills to Resist Gastric Juice

The attempt to prepare pills, tablets or capsules which will pass the stomach unchanged but which will disintegrate in the intestine has not proved very successful. In the main the attempt has been to coat such pills, tablets or capsules (a) with keratin or phenyl salicylate (salol), (b) with gelatin rendered insoluble by treatment with formaldehyd, and (c) by mixing the drug with wax, solid fats or paraffin. Keratin coating has been reported unsatisfactory by the A. M. A. Chemical Laboratory. Coating with phenyl salicylate has the objection that the coating is brittle and that it requires the administration of a considerable dose of phenyl salicylate. The difficulty in the coating with hardened gelatin is that, if the treatment with formaldehyd is insufficient, the pills will not pass the stomach unchanged and, if the treatment is prolonged, the coating will not disintegrate in the intestine. Favorable reports have been published of the method of combining drugs such as sodium carbonate, potassium iodid, sodium salicylate, etc., with mutton suet and paraffin or with a mixture of beeswax and castor oil previously melted together. (Jr. A. M. A., Aug. 25, '23.)

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Mississippi Valley Medical Association

The Mississippi Valley Medical Association a body that for many years has fostered and maintained the highest standards of Medical Organization will hold its 48th Annual ses-

sion at Hot Springs, Arkansas, October 9th, 10th and 11th.

A program of outstanding merit and appeal has been arranged. Notable features being, Symposia on Cardio-vascular Renal Diseases and Diseases of the upper Abdomen, participated in by some nations most noted authorities. The individual papers carefully chosen comprise pertinent topics with the maximum instructive value.

A special attraction will be a tour of the reservation with its wonderful natural phenomena and the session at the famous Government Clinic. All in all this meeting offers a delightful combination of recreation and scientific acquisition. Headquarters will be at the Eastman Hotel. Railroad facilities are ample to the gate-ways of St. Louis and Memphis.

Remember the dates, October 9th, 10th and 11th. Hot Springs National Park, Ark. Make your reservations now and for more detailed information consult Dr. Chas. Travis Drennen, Chairman of the Committee on Arrangements, Hot Springs, Ark.

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Clinical Tetany by Forced Respiration

This is also separately discussed by A. Goldman (Jour. A. M. A., April 22, 1922), one of the investigators referred to by Barker and Sprint. He concludes that "overbreathing sufficient to produce an alkalosis and tetany may occur during an acute disease, such as cholecystitis or influenza, in hysteria and gastric disorders, during and following physical exertion, and questionably, during early anesthesia. The tetany resulting from forced respiration produces hypesthesia to pain. The type of breathing in all cases of tetany should be carefully observed." (*Nerv. and Ment. Dis., Year Book, Bassoe, '22, p. 238.*)

—R—

Bacillus Acidophilus Therapy

A method for the preparation of *Bacillus acidophilus* milk has been published by Rettger and Cheplin (*Arch. Int. Med.* Vol. 29:357, (March, 1922)). Microscopically, *Bacillus acidophilus* closely resembles the *Bacillus bulgaricus*, but cultural methods of distinction have been proposed. The therapeutic value of the various lactic acid ferment preparations is discussed in *New and Non-official Remedies, 1923*. While recent publications give evidence in favor of *Bacillus acidophilus* therapy, W. H. Morriss expresses the belief that whatever beneficial results occurred in the cases reported by him were due to some other factor than the actual transformation of the common intestinal bacteria into the acidophilus type of organism. (Jr. A. M. A., Aug. 11, '23.)

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Arterial Hypertension

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Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Arterial hypertension, one of the commonest of disorders, has been the subject of very voluminous literature and much medical thought for close upon a century, yet unfortunately, the majority of these studies have advanced but little its etiology, significance, and treatment.

Since the days of Richard Bright in 1836, who observed the cardiac hypertrophy and dilatation occurring in chronic nephritis cases various observers who followed him have considered hypertension and cardiac hypertrophy the result of chronic nephritis. Tanbe, following him, considered that the hypertension was due to the contraction of the renal blood vessels and consequent cardiac hypertrophy necessary to drive the blood through the kidneys to maintain renal function. Ewald and Potain extended this, in that they believed there was a general vaso-constriction due to an irritated kidney reflex. This obviously cannot be the entire cause as there are often observed cases of extreme cardiac hypertrophy and hypertension even in children with little or no evidence of renal involvement. Mahomet, noticing cases that had hypertension even for years before any renal disorder became evident, described what he called a hypertension prealbuminuric state of Bright's. Albutt, in more recent years, found many so-called prealbuminuric Bright's cases with hypertension, which never developed any nephritic signs, even until the time of death. Janeway, in 458 cases of blood pressure over 160, found 116 with neither albumin nor casts, such cases by various authors being described as "benign" or "essential" hypertension, "hypertensive cardiovascular disease," "hyperiesis," etc. The pivotal idea has always been that a diminished excretory activity of the kidney results in efforts intended to restore the normal renal function, amongst these being an increased arterial pressure. In animal experiments it has been demonstrated that reduction of the kidney substance does to some extent increase blood pressure, yet in ligation or complete obstruction of the ureters, where the irritant especially affects the renal tissue, this does

not particularly occur. A similar example is found in the chronic obstructive prostate case; the blood pressure may rise to some extent and is often relieved after the introduction of retention catheters. Yet the rise is not proportionate to the degree or duration of obstruction and may not be evident at all. The fact that hypertension is an effort to increase renal function can hardly be substantiated, as it can be shown that the hypertension does not increase the circulation through the kidneys but actually hinders it, and also, as Shackelford and others have shown, that the urinary output as well as a diminution of the albumin and casts is often accomplished by lowering the pressure. It has to be granted that, although certain forms of degenerative nephritis are not associated with any elevation of blood pressure and cases are on record with very high creatinine, blood urea, uric acid, etc., with no hypertension, and equally so cases of hypertension where these metabolic products are not increased, yet possibly in some cases of nephritis there may be a retention of substances of uncertain chemistry which could cause a generalized vascular spasm and hypertension.

Of greater importance than the kidneys is the part played by the blood vessels in the production of hypertension. The systolic pressure is determined by the heart beat and the diastolic pressure by the tonicity of the arteries and arterioles and probably the capillaries. In any rigid system of tubes open at one end, attached to a pump, in the intervals between the pumping pressure there would be no diastolic pressure. Such a situation is approximated in arteriosclerosis where the blood vessels lose their elasticity, contractility and tonicity and consequently the diastolic pressure falls below normal and the systolic tends to rise. In former years hardening of the arteries was considered as one of the main causes of hypertension yet now we know that extreme arteriosclerosis, especially if only in the larger vessels, may exist with little or no change in blood pressure.

Alterations in the compressibility of the arterial wall as induced by arteriosclerosis are of no great importance as it can be shown that in arteries removed from the body and containing a known fluid pressure, extreme

arteriosclerosis in itself only raises the compressibility some 10 mm. at most. When the tonicity of the arteries is increased the diastolic pressure must rise, for the blood column is under greater tension, and it follows that the systolic pressure must rise to maintain the circulation. This has therefore been considered the essential cause of hypertension and as such the systolic and diastolic pressure should rise and fall together. Variations, however, from this do occur and are divided roughly into three groups:

1. Cases of high systolic pressure and low diastolic (230-80), dependent on an increased force of the heart and where the pressure is lowered. It is mostly observable in the systolic drop. Such condition occurs in high grade arteriosclerosis with well compensated cardiac hypertrophy.

2. Relatively slight systolic increase and a high diastolic pressure (170-120) where there is necessarily marked disfunction of the arteries and the heart not involved at all, or failing.

3. Where systolic and diastolic are both high (230-140), where both heart and arteries are involved, as in certain cases of primary spasm of the arterioles and secondary cardiac hypertrophy.

In reviewing the pathology of hypertension cases it can at least speculatively be considered that in some cases of nephritis there may be metabolic substances retained in the system that cause a general vaso-constriction, raising the diastolic pressure, and in due proportion as the heart also is stimulated or becomes secondarily hypertrophied, the systolic also is raised. It is equally certain that many other factors can be responsible for hypertension, and it may be produced in either of two ways: one, where some degenerative process affects the media and subendothelial connective tissues of small arterioles, as for instance some infection either acute, as in diphtheria, tonsillitis, or various fevers, or more slowly from some focal infection, as in chronic tonsillitis, or dental sepsis or the ingestion of various chemical vascular irritants. Another method whereby vaso constriction is caused may be shown to act through the nervous mechanism of the arterioles and capillaries, as for instance, in the case of hyperthyroidism. After hypertension has existed for some time it also appears certain that the strain on the vessels further causes a degeneration and fibrosis in their walls and so adds arteriosclerosis, or, as it has been sometimes called, arterio-capillary fibrosis, to the pathologic findings. Just when this occurs after hypertension is somewhat uncertain although it has been considered as oc-

curing in a maximum of 5 years. The secondary changes in the kidney noted in arteriosclerotic cases may exist either as some fibrosis in the walls of the glomerular vessels or in various stages to the contracted, so-called atrophic or granular contracted kidney, so often mistaken by pathologists for a primary chronic nephritis. Later changes also occur in the heart vessels and are followed by cardiac weakness, auricular fibrillation, ventricular extra systoles, or other conditions associated with cardiac failure. Similar changes in the brain can cause the various cerebral symptoms so commonly noted in the termination of hypertension cases. The majority (approximately 50 per cent) die of cardiac failure, about one-fourth die of cerebral conditions, brain oedema, hemorrhage, or other results of arteriosclerosis, and the most of the balance die of uremia. Janeway's statistics were: Cardiac, 46.7; uremics, 22.6; cerebral, 14.6; yet now we know that many so-called uremics were really conditions dependent on cerebral vascular conditions. This vascular process can be extended to include such organs as the pancreas, where similar atrophic processes can be observed pathologically, and may be in such degree as to be responsible for the incidence of a lowered sugar tolerance and increased blood sugar, and the various grades of diabetic conditions not uncommonly noted in the course of hypertension cases.

Similar effects due to the contraction of the smaller arteries may eventually produce the picture of the so-called albuminuric retinitis. Indeed, the condition of an individual's arteries may first be demonstrated by the ophthalmologist, and similar arterial changes involving the nutrition of the different organs may well account for the various symptomatology of hypertension and arterio-sclerotic cases.

In 1916 Weiss described an interesting method by which the circulation in hypertension could be studied and which has produced some results. He observed the capillaries under the nail matrix under the microscope and noted that the capillaries were elongated and tortuous and often particularly branched, all of which indicated vascular obstruction—a very different picture from the normal as also from the dilated capillaries in a cardiac stasis case.

In studying the clinical course and pathology of hypertension cases, a large percentage can definitely be shown as the vascular results of infective processes. Also the therapeutic results of removal of the infective focus may, by its prevention of the spread of the disease, permit of improvement or even clinical cure. These infections may, of

course, also be the cause of some nephritis, but the resulting elevation of blood pressure is, for the most part at least, from the generalized vascular lesions, and the renal condition and urinary findings only part of the general picture. Various poisons such as lead, arsenic, etc., have to be classed in this group. Syphilis has been an interesting study for some time, many believing it an important factor. It is true syphilis produces profound lesions in the blood vessels, especially the large ones. Its distribution, however, is usually patchy and observed in the larger vessels and, although hypertension cases sometimes do have positive Wassermann reactions, yet syphilis, in proportion to its relative frequency, plays rather an unimportant role in the etiology of hypertension.

Passing from those cases where the primary condition has been an actual disease of the smaller arterioles and capillaries, there is also a group, apparently the most benign form of hypertension cases and those in whom we hope most for real cures, where there is a primary spasm of the arterio-capillary system. This primary spasm of the arteriole may of course also be complicated by some degree of actual vascular sclerosis occurring coincidentally. The result of various infections but if allowed to persist, will or may be followed by the secondary arterial changes as in the first group, and with the same terminations as regard the heart, kidneys and brain. In this group are the various endocrin cases.

Hypertension often occurs in hyperthyroidism which in itself may probably not be a cause but may act through the medium of adrenal or pituitary or sympathetic nerve stimulation. It is interesting to note in autopsy work how often the adrenals are actually, sometimes markedly, hypertrophied in hypertension cases. Syphilis and various other diseases may cause an adrenal hypertrophy and perhaps by its pathological effects, which have been several times noted on the adrenal, can cause the occasionally noted co-existence of lues and hypertension. The influence of the adrenals has often been considered in connection with hypertension. Experiments have been conducted with injections of adrenalin and it has been noted in rabbits that serial injections were followed by a degree of arteriosclerosis. As against this, however, it has also shown that rabbits often show arteriosclerotic changes in cases having no adrenalin, and it has also been considered that adrenalin or impurities in it act as toxins producing degenerative changes in the small blood vessels. It has been shown that injections of adrenalin usually raise the blood pressure, especially so in hyperthyroid cases,

yet peculiarly enough and a fact difficult of explanation (as the works of Girou and also of Izquizeiro have shown) that in hypertension cases adrenalin actually, and often markedly, lowers the blood pressure. It may be that in hypertension cases, as in asthma, the effect of sympathetic stimulation may tend to balance the pressor effect on the blood vessels and so lower the pressure. A very frequent type of hypertension is found in climacteric cases, many women and some men apparently developing often a high degree of hypertension at this time. There is in these cases generally no evidence of nephritis, no impairment of renal function at first and often for years, and perhaps never. They may be due to ovarian, or corpus luteum atrophy, being succeeded by a secondary pituitary and adrenal hypertrophy, or possibly to various metabolic changes we are not familiar with. It seems certain, however, that in many cases injections or administrations of corpus luteum or ovarian extract may be followed by very beneficial and more or less lasting reductions of blood pressure, often surprisingly so. In this class of essential hypertension may perhaps also best be put those cases apparently due to worry and mental strain, a surprisingly large group in these strenuous days. These cases also may act through an endocrin dyscrasia but seem in many instances to be markedly improved if not cured by rest and cessation from worry. Indeed, psychotherapy in its broadest sense, by inspiring hope and installing confidence and by cultivating in the patient an ability to realize the future with equanimity, may oftentimes achieve some real results in the treatment of hypertensions, especially where a nervous etiologic element is considered, and is to some extent beneficial in all.

It can easily be demonstrated in almost any case that rest alone will lower the blood pressure, and limitation of at least strenuous exercise with intervals of rest is a constituent element in the treatment of all cases. For years and still, to some extent, excess protein foods and their derivatives were considered to be the cause of hypertension. Patients were advised to take no meat, or only in very sparing quantity. It was shown by Mosethan, and it seems to prove to be a fact that protein values, in varying quantities from 125 to 50 grams in equal caloric daily diets, can be given to high blood pressure cases with no alteration in the blood pressure whatever. It may also be a fact that where no meat or proteins are taken the individual becomes anemic and loses vitality and in this way the pressure falls, but if at this expense it is sometimes hardly worth while. It is true that

in nephritis cases the protein intake should be held within reasonable bounds yet in the average hypertension case, especially those not related to primary nephritis cases, a normal balanced ration free from irritating extracts or purins which might themselves damage the blood vessels, is most reasonable. The heavy cereal diet usually prescribed for hypertension cases often succeeds in producing obesity, a factor in itself tending to cause cardiac hypertrophy and hypertension.

In polycythemia there may be some little hypertension and various workers have attempted to show that increased viscosity of the blood was the cause of hypertension. These have never been really substantiated although certain cases of hypertension with plethora, many due to failing hearts, are vastly relieved from time to time by having some blood removed.

In 1904 Ambard and Beaugard, and later Allen and others, suggested that salt retention is the cause of hypertension. It is true that in certain types of nephritis and in cardiac cases with oedema salt administration increases the oedema, yet apparently as regards the hypertension there is no relation to salt intake. Mosehaanl, for instance, has shown that large quantities of salt can be taken with no variation of the pressure and that the chloride content of the blood bore no relation to the degree of hypertension.

Miller and Williams showed that when great quantities of water were taken there was some rise in the blood pressure and limitation of the water intake has been current practice in the treatment of hypertension, yet up to fifty per cent of the blood volume can be injected intravenously with no special change in the blood pressure. Foster and Davis studied twenty-two hypertension cases with reference to the urea excretion after administration of various quantities of water. Urea was somewhat diminished when the water intake was below 1000 but at 2000 c. c. daily, nitrogen excretion was at its maximum and the excretion of nitrogen often even more than the intake.

Hypertension is apparently not necessarily a compensatory factor that cannot be dispensed with or interfered with, and patients may be just as comfortable with a lowered pressure as with a high one and, although this has been a subject of much controversy, we are entirely at liberty, and it should be our effort, to lower the pressure as nearly to normal as possible. It, of course, might also be said of hypertension (as it does in some cases cause no symptoms), why try to reduce it? This latter procedure is extremely necessary if we study the future results of such cases.

If any conclusions can be drawn from these studies they are that hypertension is usually a symptom of some generalized cardio-vascular disease in the nature of some degree of increased cardiac force which may be purely cardiac or associated with either some spasm or sclerotic condition of the arteriocapillary system. Even in nephritis, although some retained metabolic process may in itself cause hypertension, yet the same processes causing the nephritis may by their action on the blood vessels more definitely cause the hypertension associated with nephritis. The extent, therefore, of the damage to the arteriovascular system as a whole determines those hypertension cases which sooner or later improve or recover or remain permanent. It is also of the utmost importance to discover the hypertension case early in its career and so ward off, if possible, the usual consequent secondary arterial changes and their effects on the systemic organs.

Further, also, the etiology of the hypertension must be estimated, be it from some toxic cause, some endocrin or neuropathic disturbance, or on the basis of nephritis, and by appropriate remedial measures attempt at least an arrest of the progress of the disease.

The height of the blood pressure is not an indication of the amount of kidney involved, but is essentially an evidence of the degree of involvement of the arteriocapillary system. Hypertension is not necessary to maintain the circulation through the kidneys or other tissue, and every effort should in moderation be made to lower it and maintain it at a lower level.

Having determined the cause of the hypertension and the extent to which it has caused secondary systemic changes, a rational dietary calculated to support the nutrition and strength of the individual should be adopted, in addition to the necessary limitation of exercise and various hygienic, psychopathic, eliminative, hydrotherapeutic, electrotherapeutic, and sometimes surgical remedies, administered to combat the etiologic factors involved and to lower the existing state of hypertension and so at least prevent the incidence of the serious terminal events of this disease.

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The Anemia's

J. L. LATTIMORE, M.D., Topeka

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

The topic "The Anemia's" could cover much ground and yet bring out nothing of interest, so in this paper I will only take up and discuss briefly some of the salient features from a comparative standpoint of three

types of anemias that we meet with rather commonly in our practice.

Certainly it is true that we are recognizing more cases of anemia than formerly, whether it is because we are now closer observers, whether the patients come earlier or whether laboratory aids give us an insight to the condition, matters little; it is a fact that we see more, rather recognize more, anemias than formerly. Due to these facts probably all combined, we are obtaining a higher percentage of cures in the secondary anemias, while in the incurable anemias we are getting a longer period of prolongation of life with the attendant comfort and ease.

Pernicious anemia, with our present knowledge an incurable, fatal disease, takes the leading role of the different types of anemia. The mode of onset, by the very nature of the disease is slow up to a certain stage, at which time the patient is conscious of the fact that something is radically wrong and then consults the physician. It is a difficult thing to say whether the blood changes are the earliest symptoms or the spinal cord changes. I have examined patients that show very definite general blood changes, yet showing no spinal cord involvement of pernicious anemia, while on the other hand many cases present as the first noticeable symptom the cord involvement. For the greater percent all cases pre-enting themselves for diagnosis and care have already undergone considerable general blood changes and a careful search will reveal a certain amount of sclerosis of the cord, evidenced by numbness and a tingling sensation in the fingers, hands, toes, etc. Other conditions associated with pernicious anemia are achlorhydria and glossitis.

The laboratory findings, which I think are of value and an aid in the diagnosis of pernicious anemia, are about as follows: A low erythrocyte count with a relative higher hemoglobin, giving a color index of one or above. A comparatively new technique, developed by Dr. R. C. Hayden who will open the discussion of this paper, is the volume index of the erythrocytes. This test depends upon the fact that red corpuscles of pernicious anemia are of greater individual thickness than the normal cell. So if a known number of units, ranging around 1000 units, ment in a centrifuge tube, after rotating in a centrifuge for a certain length of time at a given speed, the same number of red cells of a pernicious anemia will give a higher measurement. Of course the patient having anemia will have fewer than normal red cells, so it must be determined by count, and from this figure, merely figure in proportion. True, this test is of no value in cases that present

a high leucocyte count, as in leukemias, neither do we need it, for the differential count will divulge the condition. To me the only factor that would cause a slight variation would be in cases where there are a great number of large megaloblasts, but it is an easy matter to ascertain this condition by the differential count.

A study of the bile pigments, to me, has been of little assistance. I have used the Schneider technique and have a series of 62 cases. Urobilinogen shows as a rule a high number of units, ranging around 1000 units, but two cases gave only 75 units, one gave 123 and the third gave 156 units. Taking as the hypothesis that bile pigments are directly proportionate to the hemolytic activity, it would be very hard to explain some of my results. Urobilin is also usually increased, about 500 to 1000 units being normal and as a rule pernicious anemia cases give from 1000 to 3000 units. In two cases of pernicious anemia the urobilin results were normal. In my opinion the bile pigments may give some aid, but certainly too much dependence should not be placed upon them.

As to treatment I have nothing new to offer, merely briefly enumerate some of the therapeutic measures that help. All focal infection should be removed. Neo-salvarsan intravenously has greatly helped some cases I have studied and brought them up to a good condition for a certain period, then the remission, and after repeating this same round for two, three or four times the patient fails to respond, just as they do for transfusion, iron, etc. Later in this paper I will discuss splenectomy in pernicious anemia, in connection with the discussion of other anemias.

The most common error in the diagnosis of splenic anemia, earlier in the disease, due to the marked anemia, is the diagnosis of the condition as pernicious anemia.

Splenic anemia is characterized by an enlargement of the spleen, a marked intercurrent anemia, ascites and gastro-intestinal hemorrhage. The pathology of the spleen in this condition is a generalized fibrosis, a degeneration of the Malpighian corpuscles, an endophlebitis and later on, an enormous enlargement of the spleen.

The physical findings early in splenic anemia are often very confusing because of failure to palpate the spleen. It has been my experience that the spleen must almost double in size before it can be palpated, because of its peculiar anatomical location. Due often to our failure to palpate the spleen, finding no other physical findings, except a marked anemia, we make a diagnosis of pernicious anemia. Here, I would be guided by a low

color index, normal volume index, normal platelet count and a normal bile pigment estimation. Of course, the most uniform laboratory finding in splenic anemia is a low leucocyte count with a relative lymphocytosis.

The functions of the spleen are probably not known in full at present, but some of the functions are well established. For example, the removal of certain cellular elements from the circulation, often the spleen's capacity is not sufficient to care for this function, so the balance is sent on to the liver, where they are either destroyed or changed into energy producing bodies. A function that apparently greatly concerns the anemias is that function of breaking up of certain red cells and this function is increased as fibrosis progresses. The spleen acts also as a filter, removing from the blood stream bacteria in certain diseases, such as syphilis, tuberculosis, typhoid fever and other toxic conditions. From the spleen these substances pass on to the liver and produce the condition that commonly is known as cirrhosis.

Other conditions which give rise to an enlarged spleen and which must be differentiated from splenic anemia are malaria, syphilis, chronic sepsis, lymphatic leukemia, Gaucher's disease, splenomedullary leukemia, however most of these can be eliminated after thorough physical and laboratory findings.

As to treatment there is only one thing if a cure is to be expected and that is removal of the spleen, which also will be discussed later in this paper.

Splenomegaly of the Gaucher type is met with in young subjects. It is a slow growing condition, sometimes running a course of as long as 20 years. There develops after so long a time a secondary anemia, very slow in progress, while the spleen in proportion gradually grows larger. The pathology of this type of spleen appears to be a primary endothelioma of the spleen.

Coming now to the treatment side of these three anemias. In one condition, pernicious anemia, removal of the spleen appears at present to offer the longer life, with better health than any other therapeutic agent. In the last two conditions removal of the spleen is the cure. Many advance the theory that removal of the spleen may interfere with internal secretion. I would like to know if the spleen has any internal secretion. If it has it certainly differs from all other organs of internal secretion in the fact that it has very little connection with the sympathetic nervous system, while all organs of internal secretion upon which we are versed at present are extremely closely related to the sympathetic nervous system. The two organs

most commonly affected in these anemias are the liver and the spleen, the liver is an organ essential to life while the spleen is not. Just what part the spleen plays in pernicious anemia I do not know, but certainly its removal seems to give better and longer relief than anything we know about at present. There are some cases that undoubtedly were pernicious anemia, giving both the blood and cord changes, that have apparently remained cured for a period of as much as 6 or 7 years. Apparently, the best type of cases to get the best results from are those where the spinal cord does not show too marked involvement, while the erythrocyte count is above 2,000,000 cells per c. mm. Transfusion is the best and quickest method of putting the patient in an operable condition.

Both in Gaucher's disease and splenic anemia transfusion and other therapeutic measures must be resorted to, in order to overcome the severe secondary anemia and bring the patient up to an operable condition. In these two anemias the best results are obtained from cases operated upon while at the peak of or just following transfusions, giving a good red count.

The results obtained have been very pleasing and, as we are learning to raise the standard of physical requirement for operative cases, the mortality rate is greatly lowered in splenectomies. Splenectomy in some way produces a very profound reaction within the bone marrow. Leucocytosis persists for a comparatively long period of time with a great number of normoblasts and megaloblasts. In many cases, 2 and 3 normoblasts are found to each leucocyte. Satisfactory explanation of this change is impossible, nor is the increase in either normoblasts or megaloblasts, or both, an indicator to the patients condition, for some cases present great numbers of these cells and do well following splenectomy, while others present very few, and one does as well as the other.

The findings at operation are varied in these conditions. Some cases of pernicious anemia show an enlarged spleen while others do not. Always in splenic anemia and Gaucher's disease, there is a marked enlargement of the spleen, it weighing from 500 to 2000 grams. Other than the spleen, no other pathology is found in pernicious anemia. In splenic anemia, especially later in the disease, there is a massive net work of blood vessels and fibrous tissue, binding the stomach and spleen to the diaphragm.

Brief summary. Pernicious anemia is an incurable condition.

Splenic anemia and Gaucher's disease are cured by splenectomy.

No particular condition of the patient having pernicious anemia would cause a favorable prognosis.

The blood changes of pernicious anemia are more general than specific.

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Symptomatology and Diagnosis of Acute Poliomyelitis

C. F. MENNINGER, M.D., Topeka.

Read before the Shawnee County Medical Society, August, 1923.

Acute poliomyelitis is an acute infectious disease, practically impossible to distinguish in its initial stages from any other of the acute infectious diseases of childhood. Many cases will have the appearance of an acute gastro-intestinal disturbance, others of an acute infection of the upper respiratory tract, a tonsillitis, or a naso-pharyngeal inflammation. Flushed face, increased frequency of respiration, elevated temperature, headache, vomiting, pain on swallowing, and perhaps diarrhoea, will therefore be the sick picture observed in the large majority of cases of acute poliomyelitis during the first few days of the disease.

INADEQUATE HISTORY

If we would save ourselves from painful humiliation by recognizing the disease in the preparalytic or initial stage, it becomes necessary to uncover symptoms more characteristic of this disease. In the absence of an epidemic of this disease, we are, as a rule, not likely to give enough consideration to the fact that there is an occipital headache, or a nape ache, or a mild rigidity of the neck muscles. Nor will enough significance be attached to such psychic phenomena as irritability, restlessness, an expression of whining discontent or an excitableness. Yet these are the keynote symptoms that arouse our suspicion of acute poliomyelitis when there are other cases in the community.

EPIDEMIOLOGICAL TYPES

To have a clearer understanding of the true nature of this disease it will be well to digress here to speak briefly of the most common types in which this disorder appears. The most frequent group is called by Draper the *dromedary group* because there are two distinct periods of illness separated by a period of wellbeing. During the first period of hump, which is the initial illness, the symptoms will be those of a fever plus the complaint of the part involved—a gastro-intestinal or a tonsillar or an upper respiratory passage inflammation. After a remission of all symptoms varying from a few hours to several days one of two things will happen, namely, the patient promptly gets well or the second hump appears and there is a relapse

of all symptoms plus a cerebro-spinal involvement. The second type known as the *straggling group* has no intermission of comparative wellbeing. There is a gradual and sustained illness of varying intensity culminating in an involvement of the cerebro-spinal tract. The third or *sudden onset group* has the nervous system involvement right from the start. (Figure 1).

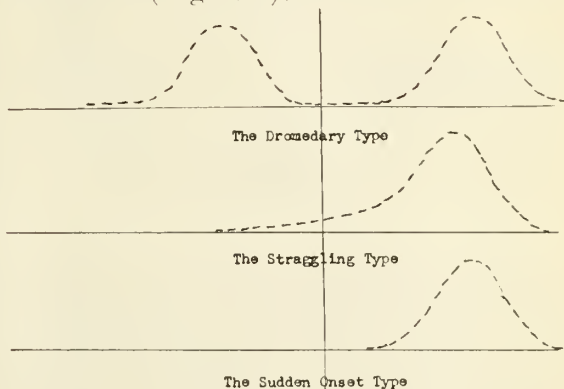


FIGURE 1

It is to be noted that this disease may last from a few hours to many days and that the intensity of either phase may touch the extremes of violence or of such mildness as to escape detection. Besides this simple classification by Draper there are those of other students of this disorder. Because of the large amount of original pathological and clinical work done by Wickmann, his classification should be studied if it is desired to gain a real knowledge of acute poliomyelitis. It will not be possible to enter into this in this short paper.

Having digressed enough to get a comprehensive view of the types or groups in which the disease makes its inroads upon the people, we will now return to take a more detailed look into the various stages.

PRODROMAL SYMPTOMS

Wickman has observed that although as a rule poliomyelitis begins in an acute manner, yet there are now and then cases with distinct prodromal symptoms preceding from several days to a week the acute onset. These prodromal symptoms are characterized by a general feeling of being sick without any definitely well marked symptoms. No doubt these cases belong to the straggling group of Draper.

REMISSION AND RELAPSE

As before mentioned the disease manifests itself often in two stages, so that after the first attack, which lasts several days, a new attack appears. Frequently this renewed attack appears as a relapse. After the first

attack the patient has recuperated sufficiently to be up and perhaps at work when he is again stricken with the second attack, which is often more severe than the first. (Figure 2).

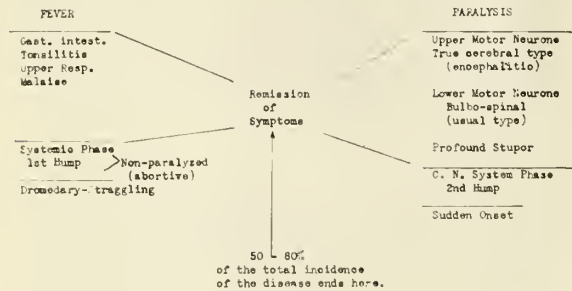


FIGURE 2

At times the relapse manifests it-self in well marked paralysis. This remission may be afebrile. Leegaard reports a case in which the interval was three weeks. Neurath reports a similar case. Seeligmüller, West, and Wickmann report cases in which the initial symptoms were apparently absent entirely which developed paralysis. West proposed to name this form "Paralysis in the Morning." These cases are very rare and without doubt are due to the lack of a good history of the first stage and due to the lack of parental observation.

CROSS INFECTIONS

Paralyses of the poliomyelitis types have been observed after measles and scarlet fever. Wickmann, who has made a study of such cases, is of the opinion that the paralyses are not to be regarded as sequelae of measles or scarlet fever but a poliomyelitis infection following the recovery from the previous infection. Poliomyelitis is a primary, independent infectious disease and not secondary to any other infection.

THE FEVER

This comes on usually quite rapidly, reaches a temperature of 100 degrees to 102, rarely 104 degrees, and declines fairly rapidly. It lasts generally but a few days, three to seven, rarely longer. The height of fever bears no relation to severity of the succeeding events. Very severe initial attacks with high fever may be followed by very mild if any secondary symptoms. The converse is equally true. Occasionally the initial fever is ushered in by a chill which may repeat it-self later at different times. These cases are infrequent.

SOMNOLENCE

Somnolence due no doubt to a general intoxication which frequently occurs and may be quite marked. Medin and also Wickmann have observed comatose states. In fatal cases only very few have passed away in a comatose state, on the contrary most die with full

consciousness. Other cases again may be unconscious for a time, which later terminate favorably.

HEADACHE

Headache is present in practically all cases. At times it is not severe, depending in a measure on the systemic infection. Sometimes it is very severe similar to that complained of in cerebro-spinal meningitis. At times no special localization, but with striking frequency the occiput is designated as the chief location.

MENINGEAL IRRITATION SYMPTOMS

These occur in most cases. Meningeal irritation symptoms are manifested by a nape ache. Frequently it is accompanied by a stiffness of the nape muscles which is evidenced by an attempt to bend the head forward. Bending the head sideways is not hindered and causes no discomfort. At times a distinct contraction of the nape muscles can be made out.

Now and then *backache* is complained of and is in some cases very severe. In one of our adult cases it was the symptom most complained of. Tenderness of the spinal processes has been observed and also rigidity of the spine. There is often a slight Kernig sign present, and a Brudzinski.

Here must be mentioned also the symptoms of *hyperesthesia*. It occurs often and especially in young patients. Complaint is made on simply taking the little child out of the bed, or on being touched, and often times cries for fear it might be touched or handled. In adults this hyperesthesia is complained of chiefly when motions or manipulations are made which involve the movement of the vertebrae.

It must also be observed here concerning the *pains in the extremities*. These occur not infrequently. They are more or less widespread and continuous. They are described by the patient as radiating pains. They are short in duration and disappear generally with the subsidence of the fever. However, they may last for several weeks, acting at times as the cause of delayed attempt at standing or moving about because of the decided aggravation of pain occasioned thereby. In some epidemics pains in the extremities and back have been among the most prominent symptoms of the initial period and when present with hyperesthesia have led to error in diagnosing the case as rheumatism or even influenza. There are some cases in which hypoesthesia and lack of temperature sense were observed. Hypersensitiveness to pressure of nerves and of muscles has also been observed. Convulsions, indicating cerebral involvement, muscle twitchings, tremors and ataxia have all been occasionally seen.

GASTRO-INTESTINAL DISTURBANCES

These occur very frequently. Vomiting is the most frequent. It is not severe and does not last long. Diarrhoea is also quite common and associated with vomiting at the beginning of the disease gives the impression of a simple acute gastro-intestinal catarrh. In one of the cases recently seen by us diarrhoea was the only symptom complained of by the patient. At times there is *constipation*. The symptoms of the gastro-intestinal tract and its pathological alterations are of special importance from the fact that some able observers believe this to be the portal of entry of the infecting microorganism for some of the cases of poliomyelitis.

in a few days to reach its maximum both intensively and extensively. After some time the muscles of the paralyzed parts show changes in electrical reaction from a diminished to a partial or incomplete degeneration reaction. Atrophy in varying degree follows in time. Sensibility as a rule is not affected.

LABORATORY FINDINGS

Of all the symptoms in acute poliomyelitis there are none more valuable in establishing the diagnosis than those brought to light by spinal puncture and examination of the spinal fluid. There is nothing of value to be found in the examination of the urine and the blood. The spinal fluid is:

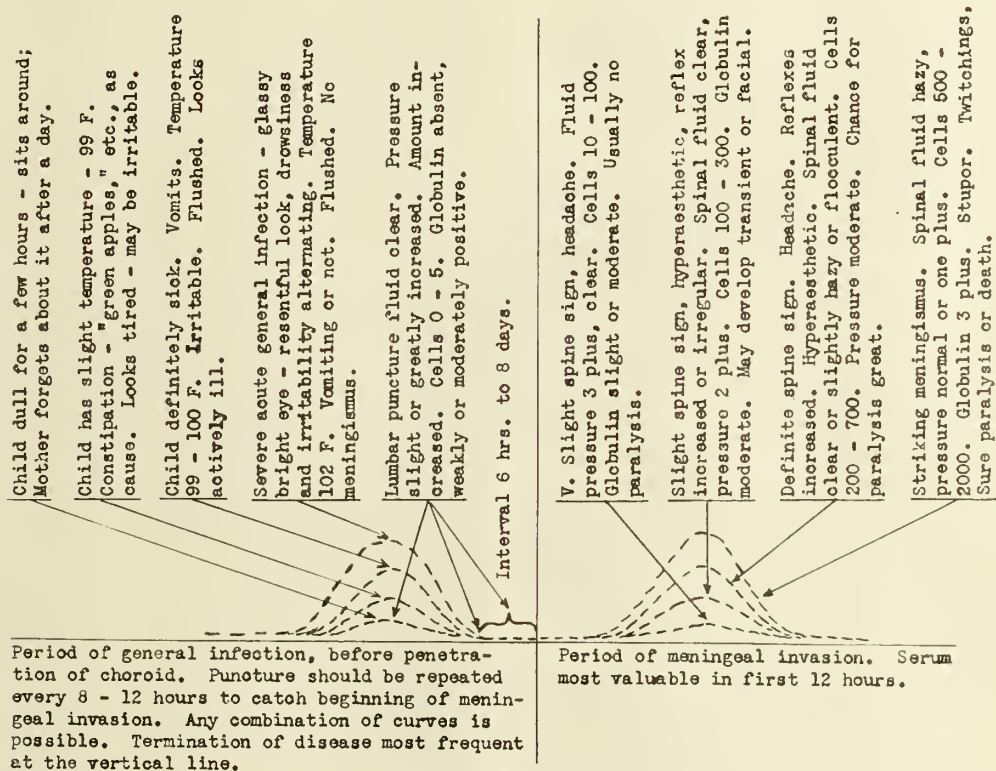


FIGURE 3

SECONDARY FEVER—PARALYSES

With the recurrence of the secondary fever the chief phenomena occurs, namely, paralysis. This occurs usually with the onset of the secondary fever or in the course of several days. In adults it is easy to observe that these paralyzes come gradually, but on the whole they develop quite rapidly. At first there may be only a weakness of the part, which in some cases increases to complete paralysis. *Pari passu* the tendon reflexes lessen in strength and finally as a rule disappear entirely.

It is quite characteristic for the paralysis

1. Under increased pressure.
2. Increased in quantity.
3. Has increased cell count.
4. Has increase in albumin and globulin.
5. Shows reduction of alkaline copper solution.
6. Shows fibrin web formation and
7. Has a characteristic colloidal gold curve.

RESUME

Figure 3 gives a resume of the symptomatology of the disease. As is readily seen the disease divides itself into a systemic phase and a central nervous system phase, separated

generally by an intermission or remission phase. During the systemic phase, which may be the only manifestation of the disease, the symptoms are those of an acute infection dependent somewhat upon the local inflammation. During this phase no positive diagnosis of acute poliomyelitis is possible when there is no prevalent epidemic. In the presence of an epidemic these symptoms are strongly suggestive. Only on the advent of the central nervous symptom phase, can a positive diagnosis be established, and this entirely through the neurological and laboratory findings.

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The Treatment of Poliomyelitis

KARL A. MENNINGER, M.D., Topeka

Infantile paralysis is a systemic infection. It must be borne in mind that it is first a constitutional disease, which may be so severe as to prove fatal, and that secondly it is a destructive process which attacks the spinal cord and particularly the part of the spinal cord from which emanate the motor nerves. Treatment, therefore, must consider not only the generalized infection and its immediate toxic effects, but must anticipate and combat the central nervous system injury and its evil progeny.

There are three stages in the disease from the standpoint of treatment:

1. ACUTE STAGE, including the period of onset, the fever, headache, etc.

2. CONVALESCENT STAGE, beginning with the appearance of the paralysis and covering the brief stationary period, the rapid improvement period, and the slower improvement period which supervene.

3. RESIDUAL STAGE, the paralysis and the resulting deformities remaining.

Each of these stages has an entirely different treatment consideration.

TREATMENT OF THE ACUTE STAGE

All authorities agree that whatever treatment is given to combat the infection should be administered before the paralysis appears. The fly in the ointment is that the diagnosis prior to the appearance of the paralysis is always difficult, often impossible, and rarely made. It happens that the best means of early diagnosis, granted a suspicious case, is also one of the best therapeutic measures. My brother's article in this Journal on the diagnosis of poliomyelitis from the spinal fluid should be supplemented by the statement that

1. *Lumbar puncture and spinal fluid drainage* is the first and probably best treatment procedure.

There are several theoretical explanations of the fact that nearly all observers agree that

in many cases immediate improvement follows drainage of spinal fluid. For one thing it decreases the pressure. The cerebrospinal fluid is increased in amount because of the inflammation of the cord and meninges and the absorption is not rapid enough to prevent an over accumulation. Meningeal symptoms and symptoms of cortical irritation often result from this mechanism alone and are relieved when the pressure is reduced by drainage. This is not all, however, the fluid, it must be remembered, contains the katabolism product, from the brain and cord and when the latter are inflamed it contains also the waste products of the inflammation. It also contains in all probability the infectious organism and the destructive toxins. Consequently when it is removed large quantities of these irritants are removed with it and the fresh supply of cerebrospinal fluid which replaces it is much less saturated with them.

If one spinal fluid drainage is good, several spinal fluid drainages are often better. (The same may be said of acute encephalitis which is very closely related to poliomyelitis.) My own technique is to withdraw about 15 cc. at first puncture and a larger amount at subsequent punctures. The usual recommendation is to drain the fluid until it drops slowly drop by drop from the needle. Some writers¹⁹ advise the removal of as much as 50 cc., but this has not been our custom. As a matter of fact it probably does not make much difference just how much fluid is removed because after the puncture is made through the dura, the fluid probably keeps draining into the extradural spaces for awhile through the little hole remaining.

The following case illustrates very prettily the combined diagnostic and therapeutic value of lumbar puncture and spinal fluid drainage.

Mrs. A. X. S., married woman of 33, had a severe chill, fever, headache and malaise on August 11th which improved enough two days later for her to be up and about. The next day the malaise and headache returned accompanied now by nausea and a stiff neck and backache. The latter became very severe. A spinal puncture was done on the 15th and the fluid was under much pressure, so great in fact that it could not be measured with the water manometer. There were 840 cells per cubic millimeter, with a marked increase of globulin and albumin, a faint reduction of Fehling's solution, and a negative Wassermann. The Gold test was unsatisfactory.

The patient experienced almost immediate relief from the backache and headache. The stiff neck disappeared. No paralysis developed although both legs were weak for a

time. She showed no more symptoms whatever, seemed perfectly well and was discharged cured after another week's observation.

2. *Drug Treatment.* In the various epidemics which have been carefully studied all sorts of drugs have been used. In general these may be divided into those given for symptomatic relief for suffering and restlessness, etc., and those given to combat the infection. In my judgment the best of the sedatives is morphine; I am unable to see the validity of the objections usually urged against it. It may be given by mouth or hypodermically, it controls the pain, it induces sleep, and it should not be regarded as habit forming in the small doses and short interval over which it is necessary. If the patients do not take it well, as some do not, codeine may be given. Luminal sodium in doses of 2 or 3 grains hypodermically may prove to be even better than morphine, but I have not tried it out on enough cases to say and as far as any mention of it in the literature of it is concerned no one else has used it at all.

To combat the infection, there has been a more or less general agreement that since urotropin (hexamethylenetetramine)²⁰ is excreted into the spinal canal and since it is bactericidal, is indicated. There has been some dispute as to whether it really works because theoretically something can be said on both sides, but practically there is no question in my mind but what it does good. This was very well illustrated by a case of encephalitis seen a few months ago at Lawrence, Kansas, with Dr. H. L. Chambers, and in several other cases less conspicuously. In this particular instance a man very acutely ill with encephalitis showed improvement very definitely after the instigation of intravenous urotropin treatment (in addition to spinal fluid drainage). It should be given in doses of 2 grams, one to four times a day, intravenously.

Recently in the German literature Buss²¹ has reported "perfect results" with intravenous injections of acriflavine in 9 cases of encephalitis, including a case of postencephalitic parkinsonism. He injected daily 5 to 10 cc. of a 0.5 per cent solution for six or eight days. His patients were all women. This same treatment ought theoretically to be very valuable in poliomyelitis and should certainly be tried.

3. *Serum Treatment.* Various forms of serum have been experimented with in all the epidemics. Two types have been used rather extensively, convalescent human serum and immune horse serum. Providing the

diagnosis can be made in time both of these seem to have given beneficial results and should certainly be used if available. Each deserves some discussion.

a. *Human Serum.* In the acute stages of poliomyelitis, the application of immune serum from human beings who have recovered from this disease has been suggested and tried by Netter¹ in a small series of cases. He drew his suggestion from the work of Levaditi and Netter², and Flexner and Lewis³, who showed that immune substances were present in convalescing human subjects. Several years previously, Flexner and Lewis⁴ had demonstrated that the immune human serum could prevent the development of the disease in monkeys if administered in the very early stages intracerebrally. The method and preparation of the serum is described in the New York City Monograph⁵ of the 1916 epidemic, by Amoss⁶, and others.

Obtaining the Serum. A Wassermann test is made on the individual's blood before the collection of the serum. The blood is withdrawn from individuals having had the disease not earlier than six weeks following an attack and may be used as late as 30 years following an attack. The New York series shows as effective results with serum taken from 10 to 20 years following an attack as early convalescent serum. Netter¹, however, states that the best results were obtained with serum from persons who had passed through an attack of the disease more recently—from six weeks to two years previously. Amoss states that if the serum is withdrawn from a patient who has passed the febrile stage and is in good physical condition, there appears to be no danger of transfer of the virus. The amount of blood taken varies from 500 to 700 cc. in an adult to 200 to 250 cc. in a child, depending on the body weight, age, and general health.

Preparation of the Serum. The blood is allowed to clot and remain in the ice-box for 24 hours to allow the separation of the serum. It is inactivated at 55 degrees C. for one hour, tested for sterility, and transferred to small sterile bottles. It may be preserved with 0.2 per cent tricresol. Such serum should be free from hemoglobin, red cells, or any solid matter. It should be kept on ice until used.

Administration. Advantage has been taken of both intraspinal and intravenous administration. The New York Monograph series were treated intraspinally. Draper's tables compiled on cases treated intraspinally as well as the results obtained by Netter and his associates, Zingher⁸ and Peabody⁹, do not appear as convincing as the results of Amoss and Chesney¹⁰ where the combined intra-

spinal and intravenous or subcutaneous injections were used. Both Draper and Amoss recommend the introduction of the serum both intravenously and intraspinally.

The administration of serum after the febrile period has passed is of doubtful value. Netter believes that cases treated after the paralysis has appeared clear up with a speed and completeness that does not occur without the use of the serum. However, the majority of workers believe treatment at this stage of doubtful value. In cases during the febrile period, where a positive diagnosis has been made, the serum is universally recommended, and believed to be the most efficient.

Intraspinally, the serum should be given when the fluid is first drawn, if the diagnosis can be made positively, without a second lumbar puncture. According to Amoss the amount given depends on the amount of fluid withdrawn and the pressure. He states the amount of fluid withdrawn in cubic centimeters less 10 is the amount of serum to be injected by the gravity method. However if the pressure is very high, correspondingly less should be given. The serum should be warmed to 38 C. before injection.

Intravenous injection should follow the intraspinal injection, the quantity determined by the age, a child of 2 years receiving 40 cc., one of 9 years 80 to 100 cc. Both injections may be repeated in 24 hours if the temperature has not approached normal.

In a small series of cases reported by Amoss and Chesney, the administration of large doses of convalescent serum a few hours before the onset of the paralysis yielded distinctly encouraging results. Weed and his co-workers²² have shown that the intravenous injection of hypertonic solutions in normal animals causes a reduction in the volume of the brain and spinal cord with a marked lowering of the cerebrospinal fluid pressure and an aspiration of fluid from the subarachnoid space into the perivascular "lymph" spaces of the brain and cord. With this in view, Aycock and Amoss²³ have carried on a series of experiments using hypertonic salt solution administered with convalescent human serum. They believe that the main possibility of a beneficial effect of such a method lies in the fact that the intravenous injection of hypertonic solution brings about an aspiration of serum from the subarachnoid space into the perivascular system, thus insuring a more intimate contact between the main lesions of poliomyelitis and the serum. They have reported one case where this has been tried²⁴.

b. *Immune Horse Serum.* Rosenow¹¹ reports in detail the results of serum treatment

of 58 cases¹² of poliomyelitis in Davenport and Dubuque, Iowa, in 1917, with serum obtained from a horse which was injected at intervals with increasing doses of pure culture of the pleomorphic streptococcus isolated a short time previously from the central nervous system of monkeys paralyzed with virus. He is supported by Nazam and Willy¹³, though apparently obtained a more immediate beneficial result. Amoss and Eberson¹⁴ at the Rockefeller Institute obtained negative results with Rosenow's immune horse serum, though Rosenow¹⁵ attributes the negative results to the fact that intraspinal injections were used instead of the intravenous method which he advocates, and that the serum was not activated with guinea pig complement. The same workers¹⁶ have also found the antistreptococcus serum of Nuzum and Willy without neutralizing or therapeutic power against the virus of poliomyelitis. Flexner¹⁷ states that large animals such as the horse, cannot be immunized with the virus to obtain antiserum. Nor can the serum from monkey be used for man.

Rosenow¹⁸ reports further on his results with the immune horse serum, and notes that in sixty cases treated before paralysis had set in, there was no death and all the patients recovered without residual paralysis, only one having any paralysis at all. The average amount of serum given here was 18 cc. Of sixty-one cases with slight paralysis at the time of serum treatment, there were no deaths, and only one had permanent paralysis. The mortality in his whole series was 7.3 per cent, that in a series of seventy-two untreated cases in Davenport and Dubuque, was 25 per cent. Rosenow finds that his results are better than those obtained with convalescent serum.

Administration. Rosenow gives his serum intravenously. In his pre-paralytic group, the average amount of serum given was 18 c.c.; in the series with slight paralysis at the time of serum treatment, the average amount of serum given was 22 c.c.; in the series if advanced paralysis was present, the average amount given was 32 c.c.

c. *Epidemic Encephalitis Serum.* This is a recent suggestion. Crookshank²⁵ has pointed out and is inclined to believe that there is a close etiological relationship between epidemic encephalitis and epidemic poliomyelitis. It is logical to assume that any disease the serum of which will neutralize the virus of poliomyelitis to be very closely related etilogically with poliomyelitis. Neustadler, Larkin and Banzhaf²⁶ have recorded data which supports this view. Five monkeys were completely protected from poliomyelitis by sera of patients convalescent from four un-

doubted cases and one suspected case of encephalitis lethargica. To date this has not been tried in the treatment of human cases of poliomyelitis.

d. *Miscellaneous Treatments.* Many other methods of treatment have been suggested and tried. The Monograph of the New York epidemic reports a variety attempted there in 1916. Adrenalin was administered to 36 patients, without beneficial results. Quinine was tried in a small number of cases but it was concluded that it does not arrest severe progressive cases, does not hasten the recovery from paralysis, does not absolutely prevent the onset of paralysis when administered in the early stages, but *may be of some benefit in the pre-paralytic stage.* It was the opinion of the staff of the Queensboro Hospital that in cases showing serious symptoms, better results were obtained from the use of simple puncture (single or multiple) than when puncture was followed by the administration of any serum or medicament. Normal horse serum, diphtheria antitoxin, anti-influenza serum, anti-meningitis serum, normal blood citrated, and auto-inoculation were all tried but with no convincing results of special therapeutic value in any of them.

Counter irritation of the spine, catharsis, enemas and hot packs are simple measures of symptomatic treatment for which there is certainly no contraindication and much to favor. Deep warm baths are recommended by Jelliffe and White every three or four hours for 10 to 20 minutes at a temperature of 102 degrees. These relieve the restlessness and make the patient feel better which is often a very important matter which is forgotten in the attention we concentrate on paralysis.

TREATMENT OF THE CONVALESCENT STAGE

This may be divided into treatment by

1. Protection.
2. Muscle training.
3. Thermotherapy.
4. Massage.
5. Electricity.

1. *Protective treatment.* In the early part of the convalescence, while there is still much tenderness, the important thing to do is to do nothing! The patient should be kept in bed and kept warm. There should be no active manipulations; the paralyzed limbs should be kept completely at rest. A cradle should be placed over the legs, if paralyzed, so that the bed clothes do not rest upon them. Simple mechanical means should be used for preventing the early development of contractures and deformities. Thus in arm paralysis a pad should be placed in the axilla to support the deltoid, and in leg paralysis a posterior right angle splint should be placed

along the leg to hold up the foot, or a box should be placed so that the patient can brace the toes and sole against it.

2. *Muscle training.* As soon as the tenderness has completely disappeared, active efforts should be begun to rehabilitate lost motor function. Muscle training is the most effective means. It should be remembered that some muscles are weakened but not completely paralyzed but others are weakened not by the disease but by disuse. Furthermore there is always some loss in powers of coordination and direction. These losses are all amenable to education. I have discussed this at considerable length in an article published in this Journal in August, 1920, on *What Can Be Done for the Paralyzed.* In this same article we outlined some 72 exercises for active and passive muscle training adapted from the work of Frenkel, whose efforts were aimed chiefly at the relief of sensory rather than motor paralyses, particularly in *tabes dorsalis.* We have found them useful, however, in other forms of paralysis including poliomyelitis.

A much more specialized group of exercises for the treatment of poliomyelitis have been devised and published in booklet form by Wilhelmine G. Wright of Boston who had extensive experience as an assistant to Dr. Robert Lovett in the Boston epidemic. Dr. Lovett's book on the *After Care of Poliomyelitis* should also be studied.

Our own work is in charge of Miss Ingeborg Lindquist whose training was received in Stockholm, Sweden, but who in the treatment of poliomyelitis combines the muscle training exercises of Miss Wright with those of Frenkel. Where the patients can afford it they are given daily treatment of this sort by Miss Lindquist and in addition receive the other forms of physiotherapy to be discussed below, particularly massage and thermotherapy. Where they are not able to afford this, the best treatment, we advise that the mother or nurse receive some instruction from Miss Lindquist or some other expert in the rudiments of muscle training exercises, then take the patient home and apply them to the best of their ability every day. This should be done under the doctor's supervision. I usually try to see the patient at intervals of a month or two. Lovett himself says "The aid of an expert is undoubtedly advisable but the constant daily faithful work of home attendance is more beneficial than occasional treatments at infrequent intervals."

I regard this as very much preferable to treatment by osteopathic physicians. I think I have no prejudice against these gentlemen in this regard but until they have a more ac-

curate conception of what this disease is, what can be done about it, and until they acquire better technique of massage and greater neglect of the great neck-jerking buncombe, I cannot feel that the patient is benefited by the treatment ordinarily received from them.

2. *Hydrotherapy*, and 3. *Thermotherapy* may be combined. Miss Lindquist's technique is to bake the affected limb in a hot pack made by the application of woolen cloths wrung out of boiling hot water, the skin having first been covered with vaseline or talc. The stipes are covered with several layers of wool and usually with one layer of silk oil-cloth or rubber. They may be left in position for about twenty minutes but should be renewed at the end of that time so that the treatment lasts about an hour.

If the patient can be placed in a warm tub at a temperature of 96 degrees F., the muscle exercises will be facilitated and there is probably some gain from the sedative effect of the warm water. Miss Lindquist uses this under our direction in some cases but most of those which we have to treat are so severely paralyzed that the effort of moving them to the tub is too great to justify it. Another difficulty about the practical application of this form of treatment in the home is that a special type of bath tub and a temperature regulating device is almost a necessity. We have this equipment at Christ's Hospital and have found it exceedingly valuable in many types of cases. I have previously advocated that every hospital should have at least one such tub and thermostat.

4. *Massage*. Massage is useful because it maintains the nutrition of muscles whose circulatory supply has been seriously crippled and whose inactivity has added the atrophy of disuse to the atrophy of paralysis. It is very important, however, that massage be given by an expert. There are so few experts in massage in Kansas that unless the patients are under the immediate care of one of them I do not ordinarily recommend it. Rubbing is not massage. Rubbing itself does no harm and probably does some good. My point here is that the mother way be advised to stroke the child's limb but this should not be dignified by the title of massage and such performances which are labeled massage by persons of inadequate training give a false sense of security and for that reason are likely to be used at the wrong time or in the wrong place or in the wrong way and thus do damage. For example I recently saw a man who had spent the proceeds from the sale of his 80-acre farm having his paralyzed arm manipulated and massaged for a year by an

osteopath who I believe conscientiously felt that this would help the paralysis in time in such way as I have suggested that these treatments do help. Examination, however, revealed without question that the paralysis was hysterical. Hysterical paralyses can be cured rather easily if they have not been hardened into an incurable state by misguided physical treatment. Such has probably been the case with this boy.

5. *Electricity*. Stimulation of the muscles by electricity helps a little bit. Almost any form of electricity may be used. I consider it much less important than the other forms of treatment. It is probably a mistake to try to do everything to one patient and I usually prefer the other methods to electricity. It is sometimes the most available means, however, and usually does no harm. One danger about electricity in the ease with which it is exploited by quacks. I was recently (August, 1923) called in consultation to see a case of infantile paralysis. As I was leaving, the father, in some embarrassment, told me of an incident which had occurred earlier in the evening. A person with an electric cabinet who they later learned had victimized one of the neighbors and had learned from them of the existence of this case came to the door and said, "I am the doctor from Topeka." Of course he was admitted; he marched to the patient's room, buzzed his electric coil, stimulated a few muscles, collected \$14.50 for his services from a rather gullible but naturally distracted father and left for parts unknown.

TREATMENT OF THE RESIDUAL STAGE

This stage is reached when no further improvement in the function of the paralyzed part is discernible. It is usually some months to a year after the acute illness. Functional training is replaced then by structural support or alteration. This is the realm not of the neurologist except in an advisory capacity, but of the orthopedist. It is imperative in the interest of the patient and in justice to the possibilities of scientific medicine that every case of poliomyelitis with a residual paralysis or contracture should have the benefit of orthopedic consultation. The orthopedists have put themselves on the map with their marvelous restitution of function in some of these cases, as I know by personal contact with such men as Robert Lovett of Boston, and Karl Werndorff of Wellington. Cases that appear to the uninitiated to be hopelessly deformed are reconstructed past the bravest hopes.

In general the orthopedists reply upon two general modes of treatment, mechanical and operative.

1. *Mechanical treatment* is most familiar

in the form of braces, which have been fairly widely popularized. They are often inadequately and unskillfully applied, however, to the discredit of most creditable devices. In addition to these, however, there are great numbers and variety of the most ingenious devices for deformity correction. A proficient orthopedist must decide which of these to use, as well as knowing the technique of their application.

2. *Operative treatment.* Surgical operative procedures of various sorts are now used with success by the orthopedists in selected cases. There are muscle transplanting operations, tendon transplantations, tendon cuttings, ligamenting with silk, and various bone and joint excisions and fractures. Nerve grafting has not been very successful so far; some day it will be. All of these procedures are technically difficult and should be done by an expert in that work. They should never be done during the stage of improvement.

3. *Psychotherapy.* The psychiatrist can help here. One matter of great importance in this stage is the patient's mental life. Adults are very likely to become depressed, although never so much so as they would if they realized the real seriousness of the paralysis. Sometimes they are over confident and it is often a task of great difficulty for the physician to decide just how much to disillusion them. Personally I feel that we should be quite frank with them if they are more than mere children and tell them that a complete restoration of function is not likely or at least not certain but that some degree of improvement is certain to follow providing a persistence in treatment regulations.

Children are more likely to show their mental symptoms after the paralysis has been well established and they have begun again to take a place in social life. They develop a sense of inferiority about their handicap which may become far more serious than the paralysis itself. The younger the child the more likely this is to occur as a character deformity. It can probably be counteracted to some extent by the insistence upon a healthy, frank attitude toward the affliction on the part of the family and the physician. All doctors have a tendency to magnify the physical in this philosophy of life, forgetting that the mental and spiritual life of the individual is incomparably more important and is not necessarily very much interfered with by a monoplegia or physical handicap.

SUMMARY

Poliomyelitis is amenable to attack by various methods in the acute stage; the earlier the diagnosis the better the prognosis with

treatment. After the paralysis has occurred there is a definite program of treatment which definitely accelerates the improvement and carries it to a point well beyond that ordinarily reached by the natural processes of nature alone. These treatment methods are presented in outline in order. Space prevents the presentation of case histories. Any neurologist and any orthopedist could cite ample material to prove that our attitude toward the prognosis of poliomyelitis should be more optimistic.

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B

Report on the Medical School of the University of Kansas

E. P. LYON

Dean, The Medical School, University of Minnesota,
 Minneapolis, Minn.

To the Board of Administration,
 Topeka, Kansas.

At your request I have made a study of the Medical School of the University of Kansas. I spent May 22nd, 23rd, and 27th at Kansas City and May 24th at Lawrence. I visited the laboratories at both places, the existing hospital, and the new site of the medical school in Kansas City, Kansas. I interviewed all available members of the faculty at Lawrence and many at Kansas City. I also saw numerous physicians and alumni of the school in both Kansas City, Kansas, and Kansas City, Missouri, as well as some business men. At St. Louis I consulted Dr. N. P. Colwell, secretary of the Council on Medical Education of the American Medical Association, and Dr. C. H. Greene, of the University of Missouri.

LOCATION OF CLINICAL DEPARTMENTS

It is understood by your inspector that after a full discussion it was decided two years ago that the practical instruction in medicine should be carried on in Kansas City, Kansas. A new and much better site was purchased. Work on the first hospital building is in progress. Your inspector assumes that the question of the location of the medical school is closed.

The new site is satisfactory—a great improvement over the old. If, however, more land is available in the neighborhood, on both sides of the state line, it would be well if it could be obtained, either by the university or its friends, to be used by medical and allied institutions that might be willing to locate in the neighborhood. A medical school has much to offer such institutions; for example, a private hospital benefits by nearness to adequate pathological service. On the other hand, the medical school is benefited by any such institutions in its neighborhood.

LOCATION OF THE LABORATORY DEPARTMENT

The departments of anatomy, physiology, bacteriology, and biochemistry are at Lawrence. The department of pathology is at Rosedale, and the department of physiology which is charged with teaching pharmacology conducts instruction in the latter subject at Rosedale, though most of its work is at Lawrence. The fundamental departments are therefore divided from each other and from

the clinical departments. This is a serious handicap.

At Lawrence the department of physiology alone appears to be decently housed, and even this department, although it has a fair amount of space, can not be said, in the basement rooms assigned to it, to be permanently provided for. The departments of anatomy, bacteriology and biochemistry are much crowded, and the condition is growing intolerable as the classes increase in size. All these departments are in different buildings.

Recommendation 1: A building for the medical sciences should be provided at once.

When one takes up the question of the location of such building two points of view and two lines of argument are presented: (a) in favor of retaining the present laboratory departments at Lawrence and even taking pathology in part to that place; (b) in favor of placing all the laboratory or pre-clinical departments at Kansas City, Kansas, with the practical branches.

Your inspector is familiar with the arguments for and against the divided school. He has watched the development of the medical departments of various institutions such as Rush Medical (University of Chicago), Indiana University, University of Nebraska, University of Colorado, University of Wisconsin, University of Texas. He has attempted to review and evaluate the arguments on both sides in the light of the historical development and in the light of the present situation and the present sentiment in Kansas.

Recommendation 2: The policy of a unified medical school should be adopted now. As soon as possible the laboratory building should be erected at Kansas City. The departments of anatomy, bacteriology, biochemistry, and physiology should be moved to the latter city.

Even before a new building can be provided the question of the possible accommodation of these departments at the Rosedale campus by readjustments and the joint temporary use of laboratories might well be discussed.

REASONS FOR RECOMMENDATION 2.

Your inspector considers this recommendation so important that he will attempt to recapitulate the reasons for it:

1. *Effect on the students.* The students need opportunities to study anatomy, physiology, bacteriology and biochemistry throughout the four years of the medical course. They need constantly to be reminded that practical medicine is only the application of these sciences. They will have opportunities to study sick people all their lives, but the lab-

oratory sciences as a rule only during the medical course. It is a pedagogical mistake to cut off the students from the fundamental sciences after a contact of only one year and a half with them.

A valuable part of medical education is the contact of advanced and beginning students with each other. This is lost in the divided school.

The beginners get enthusiasm and interest from the proximity of the clinic. This is lost in the divided school.

There is a movement to begin clinical teaching earlier in the course. If this experiment should prove successful, the students in a divided school will be at a disadvantage.

2. *Effect on the faculty.* (a) The laboratory men need contact with the clinical men and with the hospital in order to keep laboratory teaching and research in practical lines. The fundamental subjects should be taught primarily as science, but nevertheless, by contact with clinical teachers, the laboratory men can learn what to emphasize in order that their students may be properly prepared for the practical work of the junior and senior years. They can also learn of practical questions for research.

(b) The clinical teachers need the laboratory teachers. It is a tradition that pathology should work hand in hand with clinical medicine. This is because pathology developed in the hospital and dead house. No one would think of divorcing pathology from practice; and if the last half of the sophomore year should be taken from Rosedale to Lawrence, it would be necessary to teach pathology in both places.

But the clinical teachers need the other preclinical branches as much as they need pathology. Medicine becomes more and more biochemistry and physiology, and less and less pathological anatomy. The bacteriologist, the biochemist, and the physiologist should all have their contacts with the hospital. Even the anatomist needs hospital relations in order to get fresh material. If there was no other argument for the united school than the need which the clinical branches have for the preclinical, it would be more than ample. A purely clinical school is a purely practical school. Without the preclinical departments the medical school cannot have the academic atmosphere, the university spirit, the research habit, and the altruistic idealism which attach to departments where full-time men make teaching and research their life work. Only the wholetime laboratory men can bind the part-time clinical faculty into a co-ordinating working body.

A divided faculty really means two fac-

ulties, neither of which can function properly. You can not divide a race horse into fore and hind halves and expect to win the derby.

3. *Educational policy.* Medicine consists of those parts of biology, physics, and chemistry (and practical psychology) which may be used in understanding human disease and in diagnosing, treating and preventing human disease. These parts of biology, physics, and chemistry are known by special names such as anatomy, physiology, biochemistry, when one is thinking of pure sciences. They are known as surgery, medicine, pediatrics, etc., when one is considering applied science. It is an educational mistake to separate the pure sciences from the applied sciences.

Suppose one should propose that botany, bacteriology, chemistry, and physics be taken away from Manhattan and that only the practical applications of these should constitute the agricultural college, you would have the educational anomaly that now exists as regards medical education in Kansas University.

All members of the faculty and doctors interviewed at Kansas City, except two, believe that the school should be united at Kansas City. There is a strong but not unanimous sentiment among the preclinical teachers at Lawrence in favor of such action. Medical educators in general do not favor the divided school. Several schools which began that way have later been united.

POLICY AS TO CLINICAL DEVELOPMENT

Your inspector believes that the duplication of equipment necessary for teaching physiology and bacteriology to university students at Lawrence (when the main departments are moved to Kansas City) will be insignificant, this work being elementary in character.

The medical school has been located within two blocks of the Missouri-Kansas line. Only one reason can justify this location, namely, the determination to develop a metropolitan medical school, using the facilities and clinical material of "Greater Kansas City."

Recommendation 3: The policy of a metropolitan medical school making use of the hospitals and clinics of both Kansas City, Kansas, and Kansas City, Missouri, should be formally adopted. Cordial relations on both sides of the State line should be fostered. The idea that medical education is an interstate and national service should be promulgated. Private donations to the school as a "Greater Kansas City" institution should be solicited. Gentlemen's agreements, if formal contracts are not possible, should be entered into with the hospital managers on the Missouri side.

Your inspector took great pains to ascertain

whether such arrangements would be possible. It was the unanimous opinion of medical and business men in Kansas City, Missouri, that amicable and workable relations can be brought about and that public and alumni sentiment in that city will support the university in getting the necessary agreements with the hospitals.

The best teachers should be chosen, regardless of residence. The organized medical profession of Kansas should back up this policy of metropolitan development.

POLICY AS TO SUPPORT OF UNIVERSITY HOSPITAL

Every hospital exists primarily for the care of the sick and their restoration so far as possible to useful citizenship. This being true the support of the patients in the State university hospital should not be a charge on the educational funds of the State. The university may, however, properly pay for teachers and for teaching and research equipment in such a hospital.

Recommendation 4: The policy of developing the hospital on room and ward charges against patients who are able to pay and on State payment for patients who are indigent should be adopted. As soon as possible the university should discontinue the use of educational funds for the support of patients. The so-called county law is founded on the wrong psychology and should be abandoned. The county as a unit for the care of all types of indigent sick is as antiquated as is the county unit for that special class of sick known as insane. An effort should be made at once to secure a statute providing that sick and crippled children may be sent to the university hospital at State expense. Gradually, as in Iowa, the people will come to recognize the great value of such service and be willing to extend and support it.

Kansas should establish hospitals for crippled and deformed people, for eye and ear, for venereal diseases, and for mental diseases, not as separate institutions but as pavilions of the university hospital. A psychopathic pavilion, or hospital unit, co-operating with the courts, insane hospitals and all the official machinery for handling mental deficiency and delinquency should be an early development. Above all, the relation of all these social advances to medical education should be kept in view.

THE OUTPATIENT DEPARTMENT

The outpatient department should be fostered in every way. Nothing is worse than such an emphasis on hospital teaching that the student goes out trained chiefly in unusual diseases and major surgery, and dependent on the hospitals for carrying on his practice. The hospital should not overshadow

the dispensary. The best professors and teachers should be kept at work in the latter department, and the students should be given ample time there.

RELATIONS WITH KANSAS CITY, KAN.

The medical school should be an institution which the chief city of Kansas should be proud of and which it should co-operate with and support in every way. It is fortunate that Rosedale is now a part of the large municipality. The establishment of good means of communication between the main part of Kansas City, Kansas, and Rosedale should be hastened.

Kansas City, Kansas, should develop its facilities for the care of the poor in connection with the medical school. Its Health Department should be the laboratory and field outlet for public health teaching.

Recommendation 5. The proposal that the old hospital at Rosedale be used for contagious diseases and tuberculosis (perhaps also for maternity cases) for Kansas City, Kansas, should be consummated. The hospital should be supported by the city, which needs facilities for the above classes of patients. The medical school should furnish the staff. Kansas City, Kansas, should not develop any hospitals apart from the medical school. It should strengthen in every way the State institution within its borders. Thereby it will accomplish its own purposes better and at less expense.

EDUCATIONAL STANDARDS

So far as I could learn, the premedical requirements are well enforced. Everybody acquainted with the facts states that the standards of scholarship in the medical school have steadily advanced during the past six years. The graduates are fairly well trained. Men who had served internships in the East, in contact with graduates of the best schools, state that they held their own in the competition. This does not mean that there is no room for improvement. It means that the medical school has made progress and should be commended and supported.

BUDGET

The budget is small. Whether it is proportional to the total revenue of the university I can not say, but it ought to be increased.

I have no suggestions except that the payment of any considerable salaries to part-time clinicians should be discouraged in the present state of the school. Men should be sought who are willing to do the work for the advantage of medical education and their own advancement through the school relation. This does not apply to young men who may be willing to give practically full time for a

few years. Such men may be paid, but they should step out as soon as their private practices begin to increase. The fundamental departments must be provided for before the clinical. Strong laboratory departments are indispensable.

ST. MARGARET'S HOSPITAL

From accredited accounts this institution has much good clinical material not adequately used by the medical school. The distance is a disadvantage, but a workable plan should be formulated. Perhaps something like the Minnesota student-internship might be developed for this hospital and some of the other institutions of the two Kansas Cities. The university might support residents (fellows) for the principal service in St. Margaret's Hospital.

RELATIONS WITH THE MEDICAL PROFESSION

I believe the Kansas State Medical Society is friendly to the school and will help it. Broadly looked at, a good medical school and a good State hospital will help the profession much more than they will hurt it. I am certain that this view holds among the leaders of the profession in Kansas.

Meanwhile the university should do its best to be of service to the profession by short courses, by extension work, by public education in medical matters, and by setting good standards. Both sides should labor for cordial understanding and co-operation by frequently meeting together.

GENERAL CONSIDERATION

It is a mistake to permit a medical school to develop as an institution primarily for the training of physicians. This ideal leads to the criticism that medical education is expensive; that it is for the benefit of a limited class, and that it should not be supported by the State.

The agricultural college is supported because it leads to the production of better crops and better domestic animals. The medical school should produce better human beings. Both schools apply the same sciences, namely, biology, chemistry, and physics, the one to animal, the other to human needs. The medical school has an even closer relation to the happiness and prosperity of the State than the agricultural school; for what will avail any amount of economic prosperity in the absence of health?

The medical school should not be content with the negative duty of caring for people when they are sick and of preparing physicians for the traditional career in curative medicine. It should have a positive program of public health and preventive medicine; that is, hygiene in its broadest sense. To this end the medical school should foster all forms

of educational activity, both intramural and university extension which will produce doctors with ideals of public service and which will bring to the people a knowledge of the applications of science in combating disease and supporting human efficiency.

The medical school should administer all curricula based primarily on the medical sciences. These are the medical course, the dental course, the nursing course, medical social service, and the public health course.

Public health nursing is one of the first of the latter courses that should be considered. There should be a public health nurse in every county, and the medical school should train the women for these positions. They should be apostles of health and expounders of medical knowledge in the homes and schools of the people; just as the county agricultural agents are the teachers of better agriculture and animal husbandry in the fields and stables.

The medical school, though located at Kansas City might well offer popular courses at Lawrence and even at Manhattan for future teachers, for home economics students; indeed for any and all students. Funds should be available for extension work among both the doctors and the laity of the State. "The State-wide campus" is certainly the ideal of the modern State supported medical school, as it is of the agricultural college or the school of education.

The University of Kansas might canvass the question of dental education; and if there is need, dentistry might be developed as part of the greater medical school. It is a mistake alike of State policy and of educational policy to have dentistry independent of medicine. This does not mean that every dentist should have the complete training of a physician, but it does mean that both professions are founded on the same sciences and should be taught in the same laboratories and clinics. The development of a unified outpatient department including medicine, dentistry, and social service might well be considered.

The University of Kansas has a good opportunity in medical education. It need not try to rival Johns Hopkins and Harvard Universities all at once. It needs time. It needs boosting instead of knocking, harmony instead of jealousy, co-operation instead of petty criticism. I believe the time is ripe for a big forward movement.

—R—

Some one has said, and we have not the statistics to disprove the assertion, that it is not so much the apeness of the ape that some people object to as the humanness, as the connecting link between him and homo sapiens.

BELL MEMORIAL HOSPITAL CLINICS

Clinic of H. R. Wahl, M.D.

A CLINICAL PATHOLOGICAL CONFERENCE: INTESTINAL OBSTRUCTION, ADHESIVE PERITONITIS, TUBERCULOSIS PYONEPHROSIS AND TUBERCULOSIS OF THE ADRENAL GLAND.

This patient is a colored woman age 56 who was brought to the hospital with marked constipation and vomiting. The latter began suddenly three months ago and at first was severe only at night. Since then these vomiting attacks have become much more severe and frequent occurring after each meal. There was bile in the vomitus. Soft food such as eggs, milk and milk toast only could be tolerated. There has been a loss of twenty pounds in weight since the onset of this condition.

There has been nothing in the family or past history to throw light on the patient's condition. She has had, however, two attacks of "pneumonia" in the past seven years.

On physical examination we found a large somewhat fleshy colored woman with some tenderness over the right upper quadrant of the abdomen. There were violent attacks of vomiting. The teeth showed marked pyorrhoëa. The chest and abdomen showed nothing abnormal. The urine examination was negative. The blood showed a slight anemia and there was considerable reduction in the blood chlorides (390 mg. to 100 cc.) and carbon dioxide combining power (42 volume per cent). The blood pressure was 78 diastolic and 130 systolic. Two weeks after entering the hospital an exploratory laparotomy was performed in order to ascertain the cause of the partial obstruction which was thought to be present. At the operation adhesions were found over the gall bladder but no gall stones could be palpated. Adhesions were numerous over the entire peritoneal cavity but no definite obstruction could be recognized. The intestines showed no distention in any place. The left kidney was hard and nodular. There were adhesions about the internal genitalia, the tubes being thickened. An operative diagnosis of chronic salpingitis with old peritoneal adhesions was made.

While in the hospital considerable saline infusions were given to the patient because of the marked depression of blood chlorides. This treatment was followed by some amelioration of the symptoms. Following the operation there was increase in pain. The pulse became more rapid. The temperature went up to 104 degrees. A persistent hicough soon appeared and death occurred on the fourth day.

The clinical diagnosis was partial intestinal

obstruction, the cause of which, however, was not determined at the exploratory laparotomy. Following the latter a diagnosis of chronic salpingitis with general old peritoneal adhesions was made. A peritoneal infection probably post operative was also suspected.

The autopsy findings were of considerable interest. A thin bloody fluid could be expressed from the laparotomy wound. This showed no evidence of healing. Chains of streptococci were present in smears of this exudate. The undersurface of the wound had broken down, and surrounding this area there was a considerable amount of thin bloody pus which was confined to the upper right quadrant by adhesions with the omentum and coils of the small intestines. The latter showed no irregular distinction and nothing to suggest an obstruction. There were, however, numerous old dense firm adhesions throughout the peritoneal cavity. There was some discoloration and congestion of the ileum adjacent to the broken down and infected laparotomy wound. Both pleural cavities were obliterated by dense adhesive bands.

These are the organs which were removed at autopsy. You will note that the heart and lungs are apparently normal. The pleural surfaces of the lungs show numerous adhesive tags and anthracosis. There are a few puckered scars near the apices of both lungs suggesting healed tubercles. About 5 cm. above the bifurcation of the trachea there is a large, oval, hard, partly calcified mass, measuring 3 by 2 cm. This mass was situated directly over the esophagus and apparently caused some pressure upon the same. On removal it was found to feel very hard. It cut with some resistance and its substance is replaced with caseous material in which there has been some calcification. It evidently represents an old tuberculous bronchial lymph gland. Similar tuberculous lymph glands are present about the bifurcation of the trachea and at the hilum of the lungs.

The liver is large, soft and flabby. Notice the yellowish appearance of the cut surface and the greasy feel of its substance. It shows marked fatty change. Note also the large soft spleen. It cuts readily. Its cut surface is dark reddish brown in color and very soft. Its pulp scrapes off very easily with a knife. It presents the typical picture of an acute splenic tumor. This organ, the pancreas, is soft and flabby but its consistency is probably due to post mortem autolysis which it undergoes earlier than most other organs.

The left kidney feels hard and nodular. The capsule is very adherent and can be torn away only with difficulty leaving a rough-

ened surface over the cortex. The organ is unusually small weighing only 45 grams. On section it cuts with much resistance and the calices and pelvis are dilated and filled with caseous material. The cortex and medulla are thinned out by the caseous substance in the center. The kidney substance shows marked atrophy. The other kidney is much enlarged showing a compensatory hypertrophy, otherwise it appears normal. The bladder and internal genitalia show nothing striking except the adhesions on the surface.

The adrenal glands show a striking change. The left adrenal is atrophied and scarcely recognizable in the fat about it and to which it is very firmly adherent. There seems to be an indurated inflammatory tissue surrounding it and blending with it. It weighs only 4 grams. No medullary substance is recognized and the cortex is unusually thinned out. The right adrenal is very much enlarged and weighs 20 grams. Over its surface you will note reddish brown nodules 1 to 3 mm. in diameter. The cortex is thickened and in its substance some of these reddish brown nodules may be seen.

One of the loops of the intestines shows an interesting picture. It is one of those that formed a part of the wall of the abscess beneath the laparotomy wound. Its outer surface is reddish blue in color. It appears congested. It measures about 23 cm in length. On opening, its contents are fluid but, most note worthy, is the fact that its mucosa is covered with a membranous exudate adherent to the underlying tissue. There is no ulceration, however, present and no lesions in other parts of the intestines. The retroperitoneal glands are large, edematous and markedly congested. None of them show the typical tubercles or caseous areas which are noted in the bronchial and tracheal glands. The aorta showed marked sclerotic changes, atheroma and calcification. The calcification is particularly marked in the abdominal portion.

The microscopic examination of the tissues was of particular interest in connection with the kidneys and the adrenals. The kidneys showed some old tubercles and an old tuberculous granulation tissue particularly in the neighborhood of the medulla and around the calices. In the adrenal glands both miliary and conglomerate tubercles were seen. Some of these appeared to be healed and fibrosed, others show much more active lesions in which multinucleated giant cells and caseation were present. The active tuberculous process was particularly marked in the hypertrophied adrenal. A more chronic change and partially healed condition was found in the

small atrophied adrenal gland. There was very little medullary substance in the latter. The cortical layer showed considerable atrophy and degeneration. Acute degenerative changes were present in both the myocardium and in the liver, abundant fat being present in the latter.

In summing up the autopsy findings, we conclude that there is general adhesive pleurisy and peritonitis associated with old tuberculosis of the lungs, bronchial glands and kidneys and also adrenal glands with an active tuberculosis involving the right adrenal gland. Following this there was an infected laparotomy wound with a local peritonitis and a membranous enteritis. A streptococcus was isolated from the laparotomy wound. The membranous enteritis is nothing but an extension of the streptococcus infection beneath the laparotomy wound and represents a terminal complication of the same. The immediate cause of death is probably the streptococcus infection of the abdominal wall and the localized acute peritonitis underneath.

It is of interest to note that the clinical course suggested an intestinal obstruction and yet no obstructing mass was found at the autopsy. It is true that there were numerous peritoneal adhesions but no distention of the intestines from any constricting band was found. It is possible that the violent vomiting attack may have been cerebral in origin (examination of the head, however, was not permitted) but it is more probable that the peritoneal adhesions are directly responsible, for it is well known that strong afferent impulses such as may come from the peritoneum will set up a reflex type of vomiting. Furthermore, adhesions between the viscera and the mesentery and the parietal wall are very sensitive and would become irritated by peristaltic movements following the ingestion of food, hence, the vomiting after eating. Cases are occasionally reported in which symptoms of intestinal obstruction occur with nothing to account for it except a general old adhesive peritonitis.

It is quite probable that the numerous adhesions in the peritoneal and pleural cavity bear an intimate relation to the old tuberculous processes which are described in the autopsy. Healed tuberculous lesions were present in the lungs, in the bronchial and tracheal glands, and in the kidneys and also in one of the adrenal glands. It is quite probable that the history of two attacks of pneumonia was really that of tuberculous pleurisy. The adhesions in the peritoneal cavity may well have been tuberculous in origin. Marked tuberculous peritonitis may exist with relatively insignificant symptoms

and recovery may leave similar adhesions to those found in this case. The presence of an old tuberculous kidney is not surprising. The symptoms are often mild and, especially in the colored, may be easily overlooked.

The tuberculous changes in the adrenal gland is worthy of more than passing comment. One gland was almost entirely replaced by tuberculous granulation tissue, while the other showed some tubercles superimposed upon its surface and also in its substance. The second gland showed a definite compensatory hypertrophy indicating that the tuberculous process is only of recent origin. Tuberculosis of the adrenal gland usually results in the clinical picture of Addison's disease. In fact, large caseous tubercles in the adrenal gland is the common lesion in this condition. I have seen one case when tuberculosis was absent and in this case both adrenal glands were markedly atrophied and the seat of a chronic inflammation. In all others there were always either large caseous tubercles or tuberculous granulation tissue that had more or less completely destroyed the gland. In this particular case there was little to suggest Addison's disease clinically, there being no marked weakness and no pigmentation though the latter naturally would be obscure in this race. In view of the woman's age and marked sclerosis of the vessels, the blood pressure which was 78 to 130 can be regarded as rather low and is for this reason suggestive and possibly a result of partial destruction of adrenal tissue. However, one adrenal gland showed such extensive compensatory hypertrophy that it probably supplied sufficient chromaffine tissue to supply the needs of the body. It should also be noted in this connection that the only evidence of active tuberculosis found in autopsies were the tubercles which were present in the right adrenal gland which was the seat of scattered miliary and conglomerate tubercles.

It is quite evident that this case represents an example of a complication resulting from an old latent tuberculosis. There were a series of old partly healed tuberculous lesions such as adhesive peritonitis, adhesive pleurisy, healed tubercles of the lungs, pyonephrosis, and tuberculosis of the adrenal glands. One of these, that is the peritoneal adhesions set up certain functional disturbances in the form of reflex vomiting which brought the patient to the hospital for treatment and in endeavoring to ascertain the cause of the vomiting a partial obstruction was suspected, a laparotomy was performed, following which and probably as a result of the patient's lowered general resistance, infection developed in the wound resulting in local peritonitis

and death of the patient. That the tuberculous process was not entirely healed is evidenced by the presence of rather fresh tubercles in the other hypertrophied adrenal gland. This active tuberculosis, however, did not play an immediate factor in bringing about the patient's fatal illness.

—————R—————

Dr. Earl Miller has been appointed Director of the Department of Experimental Medicine of Parke, Davis & Company, Detroit, to fill the vacancy following the death of Dr. Ezra Read Larned, who was the originator and organizer of this department and occupied the position as head of the department until his death. Dr. Miller was assistant to Dr. Larned for twelve years and has a wide acquaintance among medical men interested in clinical research work.

—————R—————

The Council on Pharmacy and Chemistry reports on the present status of sour milk therapy. During recent years reports have been published which indicate that the growth in the intestine of the normally present *Bacillus acidophilus* may be increased so as to make this the predominating organism, by the administration of lactose, by milk fermented with *Bacillus acidophilus*, or by the administration of viable cultures of *Bacillus acidophilus* in conjunction with lactose. Growing out of the claims of favorable therapeutic action, the use of so-called *Bacillus acidophilus* milk and other products prepared with *B. acidophilus* has become quite widespread. While no one subscribes today to the original theories of Metchnikoff, there are many who believe that the regulation of the bacterial flora is of importance. There is evidence that the administration of sour milk is at times beneficial, particularly in pediatrics. A wide clinical observation indicates that for certain types of gastric and intestinal disturbances, fermented milk accomplishes more than unfermented milk. (Jr. A. M. A., Sept. 8, '23.)

—————R—————

The secular press tells us that the speech center of a righthanded man is in the left side of his brain; and the speech center of a lefthanded man on the right side of his brain; and an ambidextrous man has one in each side of his brain. If a man wants to be a great talker all he has to do is learn to be ambidextrous. The principle is illustrated in the man who got a set of teeth by mail order from Sears and Roebuck and talked himself to death. The undertaker examined the dead man's artificial teeth and stamped on the plate was "For Women Only."

THE JOURNAL of The Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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Report on the Medical School

The report on the medical school by Dr. E. P. Lyon, Medical Department of the University of Minnesota, appears in this number of the Journal. It may be well to explain that during his last term of office, Governor Allen and the Board of Administration requested Dr. George F. Zook of the National Bureau of Education at Washington to conduct a survey of the institutions of higher learning in the State. On a committee for this purpose he secured Mr. Coffman of the University of Minnesota and Dr. Mann of Cornell University. In response to a special request of the Dean that the medical school be gone over very carefully Dr. Zook selected Dr. Lyon for this special purpose. Dr. Lyon spent considerable time at both branches of the school and conferred with various members of the faculty.

Dr. Lyon has made a very comprehensive report and the recommendations he has made seem to meet the general approval of those who have given much thought to the future of the school. In order to carry out the most important of these recommendations and the obviously reconstructive changes they suggest, it will require the whole hearted support of the profession in the state. The people at large, and especially the legislature

must be taught to regard the medical school as more than a school for the graduation of students in medicine.

Its importance as an economic factor should be pointed out. The people can be and should be shown that they are the ultimate beneficiaries of whatever investment the state may make in its medical school.

Our Problem

One of the most important problems confronting the medical profession is how to educate the people so that they will have more correct ideas of diseases and their prevention and cure; so that they will be less ready to accept the phantasies constantly constructed for them by those who wish to exploit the ills and afflictions of mankind; so that they will better understand the difference between an educated doctor, trained in all the branches of medicine, and one whose mental horizon is limited by a dogma or creed—who has but one idea and that a questionable one.

A short time ago some data were collected in Chicago to assist a committee from the Illinois Medical Society in planning a campaign for education. The purpose was to determine the attitude of the people toward the medical profession, and to learn the reason for such antagonism as might exist. Replies to the questions asked were grouped from 6,772 people in and out of Chicago. Of this number only 931 had never dabbled with any of the cults or pseudo-sciences but only 384 were entirely content and satisfied to let the cults alone. The report was submitted by Buda Carroll Kellar who grouped the replies under twenty-two heads. This analysis is so interesting and instructive that we feel more than justified in reproducing it here:

"1. There is a large group of people who will tell you that the physician is negative. He tells you what you must not do, warns you of ensuing fatalities; the osteopath, chiropractor, does something concrete for you. The mental reaction is better.

"2. There are others who will tell you that the physician has too good a graft. He looks at you once and charges you five dollars for a prescription which he gets from a book on the shelf. You can do quite as well by going to the corner drug-store.

"3. There are those who say that doctors resent questions. They either shut you up summarily or overwhelm you by an utterly incomprehensible explanation.

"4. Others say that doctors set themselves up

as wiser, less fallible, than other people. One woman said that the last doctor she had was as pompous as a New Zealand devil dancer.

"5. It is said that doctors habitually criticize treatments and healing methods of which they know nothing. How many doctors have questioned carefully a patient who has been helped by chiropractic treatment? How many of them have even seen a treatment? Yet they criticize it, regardless.

"6. Some people said that the chiropractic schools at Davenport had really amazing equipment; and that the students there worked so hard that they must be very competent when they came out.

"7. Others say that physicians are not consistent in their ethical practices. The man who goes after business by the business method of advertising is likely to be thrown out of his society. Yet the doctor with a spectacular patient, and with enough of a graft with a city editor to exploit him, becomes a high priced specialist and everybody is anxious to call him into consultation.

"8. Numbers of people commented on the osteopathic advertisements which have been running in national magazines, and claimed to have been interested to the extent of trying out the treatments.

"9. Another group says that the doctors attitude toward one another is about as friendly as two strange bulldogs in a back yard. Suppose you dismiss one physician from a case and call another. He will come in, inspect you sorrowfully, shudder with horror as he sniffs at the bottle of medicine his predecessor left, and say in a deep voice: 'You did well to send for me; in another hour you would have been no more. But I shall cure you!'

"10. There are people who misunderstand your ethical ideals. They say that an honest man will protect a crook. That if another doctor has blundered disastrously on a case, you will do absolutely nothing to prevent his repeating the performance on any patient who may stray into the office.

"11. There are those who believe that successful doctors use for their patients parts of the very same treatments that make the practitioners successful—diet, massage, adjustment, and let nature do the work—but they drag it out longer, clutter it up with useless medicine, make it cost more, and don't tell you the truth about it.

"12. Others think that when you actually get down to cases, the doctors do the same things that they revile in their competitors. There is a famous clinic in the Middle West which is so prosperous that nobody in the profession dares criticize it. Yet they used to flood all that part of the country with the advertising literature, report has it, and later entered into a deal with a railroad to advertise the town as the home of that clinic.

"13. The cults—Science, New Thought, and a dozen others—make you a factor in your own healing. It is subjective. Medicine treats you merely as an objective—a clod of a thing to be worked upon.

"14. Another group says that doctors are always a bar to progress because they fight social legislation, such as the Shepard-Towner bill, and the only new stories to be found in the public press show their motive to be a selfish financial one.

"15. Others say that doctors won't talk competition from a fair angle. They will never admit any good in mental or related aids, and their attitude bears the stamp of a narrow outlook, because such great movements as Christian Science could

not exist so long or flourish so wonderfully without a foundation of truth.

"16. The cults—and this comment was made of many—draw upon forces that are greater than man. The doctor's resources are human and mechanical!

"17. There is a large group which refuses to believe that only the doctor who has studied allopathic medicine was competent to practice the art of healing. Yet the doctors have never given the slightest degree of approval to anything which did not originate in their own ranks.

"18. Another group wondered if anyone interested in healing methods hadn't better read the expose of the medical profession recently appearing in a popular magazine. It showed how little most doctors know about the drugs they prescribed.

"19. Another group said that since doctors seem to be responsible for the vast group of drug addicts so much discussed now, it is dangerous to let yourself be given drugs for any kind of illness, and drugless healers are therefore best.

"20. Another group says: 'The last doctor I went to gave me the wrong treatment and I nearly died; I went to an osteopath, or a napropath or a chiropractor, as the case may be, and was cured!'

"21. Others say that there are too many specialists. It is too expensive to be handed around from one to the other for each separate thing they think might be the matter with you. It is better to go to some one who can take care of everything at once.

"22. And, finally, there is the group that says there is no way of telling which is the good doctor and which is the bad one, and it is too dangerous to experiment with them. Osteopathy—or each man's favorite practice—can't hurt you, and has cured every difficulty so far."

In a good many states committees have been appointed by the state society, or joint committees from the state society and other organizations having to do with public health, for the purpose of conducting educational campaigns. One of the most active in this work is the State Society of Oregon under whose initiative was formed The League for the Conservation of Public Health. The objects of the League are stated in the following:

"1. To investigate, collect, prepare and disseminate all obtainable data practically touching the conservation, improvement, and protection of the public health, and put the principles of preventive medicine and surgery into general practical effect.

"2. To create Committees of Specialists to study, discuss, analyze and report on the causes and effects of the specific diseases and conditions that constitute community health problems, factory and sanitation and industrial hygiene.

"3. To publish and circulate health bulletins, leaflets, pamphlets and other appropriate literature, to educate and organize public opinion, make the important facts of hygiene household knowledge, and thereby eradicate popular errors and unsound views.

"4. To stimulate scientific research to solve the doubtful public health problems, and make known

to the public, by appropriate literature, timely lectures, and through the press, the problems and progress of scientific medicine.

"5. To promote a wider and more accurate knowledge and adoption of preventive measures in the home, school, store, factory, farm and mine.

"6. To study sympathetically and systematically from the humanitarian and utilitarian standpoint such social problems as are the cause or effect of disease.

"7. To investigate the environmental causes of disease and the most efficacious methods of prevention and treatment of communicable diseases, seek to improve living and working conditions and suggest desirable legislation to promote and protect the public health.

"8. To undertake independent and impartial sociological and experimental medical research, and comprehensive investigation into the difference between urban and rural morality, conditions affecting the various sections and localities of Oregon, including the problems of tuberculosis, malaria, cancer and pneumonia, protection of infant life and maternity, milk, food, water supply and general sanitation.

"9. To conduct a bureau of research and information which will investigate and furnish health statistics to all members, to co-operating organizations and societies, and to the press.

"10. And generally to initiate, encourage, foster, aid and promote such activities as tend to advance, conserve and protect the public health."

In California the campaign of education is conducted by the League for the Conservation of Public Health independently of the state society. A health magazine is published and a syndicated service for newspapers is conducted. Public speakers are also furnished by the League and the State Society.

In Indiana plans were quite carefully formed for conducting a campaign of education and a sum of \$5,000 was appropriated by the State Society and Dr. J. N. Hurty, retiring State Health Commissioner, was chosen for Educational Secretary. The ultimate failure of Dr. Hurty to undertake the work interrupted their plans, but at the last meeting the committee recommended that the appropriation be increased to \$7,000.

Other states are awakening to the opportunity that offers and to the need that exists.

The Kansas Medical Society has attempted in a half hearted way to conduct some kind of an educational campaign and perhaps a modicum of good results may be attributed to these efforts. There has been a very serious lack of organization, however, and no very definite plans have been presented. Such efforts as have been made have consisted al-

most entirely of public meetings of county societies. Where such meetings have been held much good has been accomplished, but they are too infrequent where they are held, and they are held in too few counties to make the impression that should be made.

If this work is to be conducted with a view to large and definite results it must be properly planned and carried out according to some definite system. There can be no doubt that more people can be reached—more positively reached—through the press than by public meetings and public speakers. That most of our newspapers are interested in such a campaign and that their columns are open to articles of general public interest, along health lines, may at least be assumed until otherwise demonstrated. In addition to a syndicate service such as the one conducted in California it might even be possible to conduct a health magazine which could be placed in the homes where it would be of greatest service.

Whatever is attempted along this line, if it is to produce any definite results, will need to be financed by the State Society. The present state of the Society's finances will not justify any extensive outlay for the purpose. Just how keenly the profession feels the inroads of the cults upon their legitimate field may possibly be estimated by the reception accorded to a proposal to increase the dues for the purpose of popular education. In Oregon the dues of the members of the State Society have been raised to twenty dollars, half of which goes to the support of the League for the Conservation of Public Health.

CHIPS

One would-be authority says, barring malformation, it is the lack of vitamin that is the cause of sterility. May be so.

The lay press announces the name of a new gas "Soporite." It puts a man to sleep for six hours. During the next war the following headlines will be seen, "Airplane Soporited the Enemy Army. Removed Their Guns and Took Them all Prisoners. No Loss of Life on Either Side." Great.

Our dietetic scientists tell us that alfalfa and clover, two legumes, stand at the head

of the vegetable list in supplying water soluble vitamin. Tomato stands third. Spinach, cabbage, turnips, carrots, timothy, potato and beet in the order given.

Our friend, Nebuchadnezzar, of whom we have an account in Daniel IV, 33, B. C. 569, knew of the vitamin in alfalfa, upon which he lived for seven years. The only unpleasant result, we are told, was that he walked on all fours, ate like an ox and his body was wet with the dew of heaven, till his hairs were grown like eagle's feathers, and his nails like bird's claws. The lessons we learn from our old friend are: 1st. He knew vitamin thirty centuries ago. 2nd. Although he was crazy, intuition stayed on the job. 3rd. That alfalfa vitamin will grow hair and feathers as well as beef steak. And last but not least if we want to grow wings eat alfalfa.

There are cannibals in the blood (phagocytes) that eat up the microbic enemies, and antidotes that neutralize the deadly poisons that may get into the blood stream. Man's conduct toward his fellow man is copied from the phagocytes and antidotes in protecting himself from his fellow man.

"Microbes over two thousand years old have been found on papyri of the times of the Ptolemies. They were found to be virile and quick to multiply when sown on gelatin." These bugs are like the dog. They don't care for time.

Hippocrates had an inkling of endocrinology. He defined health physiologically as a condition in which "each humor is in due proportion of quantity and force, but especially properly commingled." The human body is thought to be physiologically normal, now, when "it is useful, efficient, and harmonious in its production of energy."

The scientific naming of a disease begins when from a great number of experiences, one general conception or conclusion is formed which will embrace all similar cases. Aristotle modernized.

Lamarck, the great French Zoologist, 1744-1829, taught that all forms of life whatsoever are modified descendants of an original organism. Hence from lowest to highest, there is but one race, one species, just as all the multitudinous branches and twigs from one root are but one tree.

He explicitly formulated the idea of the transmutation of species. The changes have been wrought, he said, through the unceasing efforts of each organism to meet the needs imposed upon it by its environment. Constant striving means the constant use of cer-

tain organs. It was in 1802 that Lamarck suggested the word Biology as an appropriate word to express the general science of living things. However, independent thinkers in different countries at the same time had used the term.

The human organism the same as all other organisms tends to increase in a geometrical ratio through successive generations and hence would soon overpopulate the earth. Nature's method of preventing such a catastrophe is to keep the organic world, animal and vegetable, in a state of perpetual carnage and strife. Individual against individual, fighting for sustenance and life.

"Automobile Riding Increasing Life an Average of Eleven Years" is the title of an article in "Science Notes" in *Popular Mechanics* for October, 1923. The proof of the assertion—"In 1903 there were only 10,850 automobiles manufactured and the average length of life was placed at 37.64 years. Ten years later, the production of automobiles had increased to 461,500 and life expectancy had advanced to 41.01 years. In 1922, when 2,287,000 were turned out by the factories, the average life had increased to 48.66 years. Sunshine, open air and freedom from worry (?) that results from driving on the open road, the doctors stated, caused the noticeable length of life in the last twenty years."

Opinions as to the quantity of the blood in the body vary to some degree—from 1-13 to 1-17 the weight of the body. If 1-15 the weight of the body is assumed as a fair basis and its specific gravity be placed at 1055, the total quantity of blood in a man weighing 50 kg would be 3160 c. c. or nearly 3,160,000 c. mm. If we assume that there are 5,000,000 red corpuscles in each c. mm. of blood then there should be a total of 15,800,000,000,000 red corpuscles in the blood of a man of that weight. It is generally stated that the life period of a red cell is from 3 to 4 weeks. If 30 days be assumed as its life span then about 526,700,000,000 die every day, or approximately as many red cells as are contained in 100 c. c. of blood. What disposition is made of them, what effect their demise and decomposition has on other cells of the body are subjects for interesting speculation and experiment. Miyagawa presents some very instructive suggestions in the May number of the *Japan Medical World*.

Stengel gives four classes of cases in which insulin should be used.

(1) The coma cases in which, if given early enough, insulin will give almost certain relief.

(2) The severe cases, with tendency to aci-

dosis when insulin should be begun without waiting to determine the patient's carbohydrate tolerance.

(3) The severe or mild cases that have dropped low in weight and are in a state of debility.

(4) Cases requiring operations for gangrene or for other causes, in which it is important to remove acidosis as rapidly as possible.

Idiosyncrasy to quinine may be determined by applying a drop of a 1 to 10 per cent solution of the drug to the scarified skin. The occurrence of edema with a wide zone of erythema in about five minutes indicates abnormal susceptibility. In such cases two or three grains will cause cinchonism. Among the rashes produced the majority are erythematous, but urticarial, purpuric, vesicular and bullous, have been frequently observed. Irritability of the bladder and urethra have been occasionally observed. Cases have also been reported in which hemoglobinuria could be produced at will by the administration of quinine.

It may be well to remember that leucocytosis is fairly common in pregnancy. The cell count usually runs between 11,000 and 13,000 although counts as high as 25,000 have been observed. It is perhaps more common in primipara than multipara but frequently occurs in both. Polynuclear leucocytosis has been observed in 80 per cent of certain groups of cases. After parturition the leucocytes gradually diminish and reach the normal in from four to fourteen days. It may be prolonged however in cases where there have been marked erosions or tears of the genital tract, or where there are mild disorders of the breasts, or where there has been much loss of blood.

Minaki in a study of fat embolism occurring in cases of bone injury found that in injuries to bones their fat contents greatly increased both in quantity and in the size of the flakes. The occurrence of fat embolism did not depend upon the extent of injury, number of wounds or age of animal, but upon movement of the body after being wounded. Absorption of fat began in 10 minutes after injury and reached a maximum in three hours. Fat absorbed from the fracture was transmitted partly to the lymphatics and partly to the blood vessels. *Japan Medical World*.

From experimental investigations on animals Kumira (*Japan Medical World*) came to the conclusion that the substances which are normal constituents of the cerebrospinal

fluid itself, such as diastase or glucose, can be transferred from the blood into the spinal fluid, but foreign substances such as hemolysin or drugs never pass from the blood into the spinal fluid. Regardless of the amount of sodium iodid administered intravenously no trace of the drug is found in the spinal fluid. He attributes this to a specific biological function of the meningeal choroidal complex which makes a septum between blood and spinal fluid—which may be disturbed, however, or so affected by some substances such as horse serum or cobra venom, as to permit the passage of hemolysin.

Miyagawa, *Japan Medical World*, summarizes the results of his experimental investigation of the disposal of dead cells as follows: "When the component of dead cells in the living body is absorbed and enters the blood circulation, it acts directly upon the homologous cells and accelerates the formation of organ toxin which has also the action upon the homologous cells. Such a process is going on physiologically all the time. Because of this process, the physiological function of the cell receives an irritation. This irritation, co-operating with the regulative action of the nervous system enables the living body to perform the vital function in a good order. But if the irritation is too strong, or goes beyond the physiological threshold of irritation, then degeneration and necrosis result. In other words, when the necrosis of cells is abnormally violent on account of various causes, the reaction becomes pathologically great. This point of view seems to teach us that diseases induced by various causes are more equally distributed over the whole of an organ by the direct action of the resorbed component of cells or the action of organ toxin, and display their typical forms."

Williamson, *New York State Journal of Medicine*, suggests the possibility that repeated x-ray pelvic exposures of a pregnant woman might influence the lymphatic glandular tissue especially the thymus gland which is so easily influenced by x-ray in therapeutic procedures. As the thymus gland influences the future growth of the child careful follow-up observations should be made for several years.

In 1921, Dr. H. E. G. Boyle of London read a paper before the Section on Miscellaneous Topics at the annual meeting of the American Medical Association. The paper dealt, in part, with so-called improved ether—"Ethanosal." The paper was not published in *The Journal A. M. A.* on the ground that *The Journal* does not publish articles on new remedies until those products have been re-

ported on favorably by the Council on Pharmacy and Chemistry. The investigation of "Ethanesal" by Dale, Hadfield and King which makes plain the fallacy of the claims for the product, demonstrates again the advantage to the medical profession of a competent judicial body—the Council on Pharmacy and Chemistry—to investigate new additions to our *materia medica*. (Jr. A. M. A., Sept. 22, '23.)

Calcium chlorid seems to be of some use in the treatment of hay fever, but it must be taken in rather large doses during the whole season to be of much benefit—about 1 gm., from four to six times a day. The use of this drug in hay fever is chiefly based on the work of European investigators who have shown that the permeability of the mucous membranes and of the capillaries is decreased by the internal application of calcium chlorid. The treatment is entirely symptomatic, and no permanent relief must be expected. (Jr. A. M. A., Sept. 8, '23.)

The average systolic blood pressure in 55 full term infants following normal spontaneous labor was 43 mm., according to Reis and Chaleupka. The minimum was 32 and the maximum 58 mm. There was a daily increase until on the ninth day the average was 78 mm. In pathological labors the blood pressure was usually higher, due to increased trauma to the foetal head and in these cases the readings gradually approached normal with the clinical improvement.

In a discussion on the use and abuse of forceps (*Lancet*, Sept. 15) Comyns Berkeley stated that it was impossible to sterilize the vagina. It was therefore impossible to pass anything into the uterus, be it fingers, hand, or forceps without potentially infecting it; and moreover from the darkness, warmth and serum present the uterus rivalled in its ability to encourage the growth of pathogenic organisms any suitably prepared culture tube in a bacteriological laboratory.

Webb, in summing some observations on marriage, pregnancy, parturition and tuberculosis, (*Lancet* 9-15) makes the statement that a tuberculous woman loses nothing by marriage. It is twice as likely to improve her condition as to cause deterioration. Pregnancy and parturition are likely to make her worse—there being a 50 per cent chance of this against a 19 per cent chance for improvement. The children are seven times as likely to be tuberculous as those of healthy mothers. In regard to the husband he says: "I look upon it as certain that the husband will be infected sooner or later if not con-

genitally immune or with a smouldering infection of his own."

The chairman of the committee for the study of toxic effects of local anesthetics, appointed by the Therapeutic Research Committee of the Council on Pharmacy and Chemistry, publishes a preliminary report. The committee has received reports of forty-two deaths following the use of local anesthetics occurring within the last few years. These accidents have not been reported on by former committees of the Association. The deaths reported are:

Anesthetic	No.
Stovain	1
Alypin	1
Procain	3
Apothesin	4
Butyn	4
Butyn and cocain.....	1
Procain and cocain.....	10
Cocain	18
Total	42

Under the headings procain, and procain and cocain, novocain is included: one is reported as procain and the other twelve as novocain. As the five deaths following the use of butyn are the first reported, the committee is very desirous of receiving full details of other fatalities for comparison of relative toxicity. These reports should be sent to the chairman of the committee, Emil Mayer, M.D., 40 East Forty-First Street, New York City. (Jr. A. M. A., Sept. 15, '23.)

B

Mr. Joel A. French, of the salesforce of John T. Milliken & Company of Saint Louis, has been transferred from eastern Kansas and will hereafter cover the western Kansas territory for Milliken. Mr. French is a registered pharmacist, and has a wide circle of acquaintances in his home state.

B

The present methods of administering insulin parenterally are far from satisfactory. Consequently, the earliest investigators of insulin and other pancreatic preparations attempted to secure physiologic effects by oral administration. There is evidence that slight effects may be obtained when insulin or other pancreatic preparations are introduced into the organisms by way of the mouth under certain conditions. On the whole, however, the oral administration of insulin has proven quite inefficient. Rectal administration and nasal insufflation have been tried without success. A recent study showed that pancreatic extracts taken in capsule form by the stomach was not effective in decreasing blood sugar or urinary sugar. It is desirable

to give wide publicity to the current limitations of a most promising therapy, since unscrupulous vendors are already attempting to distribute just-as-good pancreatic or anti-diabetic preparations that are recommended for oral use. (Jr. A. M. A., Sept. 1, '23.)

—R—
PERSONAL

Dr. Seth A. Brainard, Kirwin, has purchased the practice of Dr. F. L. Depew, Howard. Dr. Depew has opened an office in the Cowley County Bank Bldg., Winfield, for general practice.

Dr. John O. Murrin, formerly of Maryville, Mo., has located in Atchison. Dr. Murrin graduated from the University of St. Louis Medical College in 1921 and served a two year internship in St. John's Hospital, St. Louis, Mo.

Dr. Lee Cowan, formerly of Fall City, Neb., has succeeded the late Dr. E. P. Pitts of Atchison.

Dr. E. J. Briback of Atchison returned September 1, from a two months' Post Graduate course in the University of Colorado. Dr. Briback spent July and August of last year in the same University and the following four months in Vienna taking Post Graduate work in Ophthalmology.

Dr. R. N. McKinney has moved from Augusta to Tonkawa, Okla.

Dr. L. R. Hillyer is leaving Eldorado on account of his brother's health. He is going to Utah and probably will locate there.

Dr. C. A. Thomas and wife and girl left for Oregon for an indefinite stay with the doctor's uncle, Dr. A. W. Cornack, Albany, Oregon.

Dr. W. D. Groff, Nortonville, has returned from a two months' vacation in California.

Dr. R. A. Taylor, Topeka, is in the hospital recovering from an appendectomy.

Dr. J. L. Lattimore, Topeka, was operated on for a suppurating appendix the last week in September.

Dr. C. W. Schwartz, Topeka, was operated on at Kansas City recently for a duodenal ulcer.

—R—
SOCIETIES

HARVEY COUNTY SOCIETY

The Harvey County Medical Society was held at Halstead. The members were enter-

tained at dinner in the Hospital after which the following program was rendered by members of the staff: "The latest inventions in surgery, 'Plantarburitis,'" Dr. A. E. Hertzler. "Mixed tumors of four testicles," Dr. D. R. Thomas. "The human pelican—diverticulum of the esophagus," Dr. J. D. McMillion. "Cranial and Abdominal Aereonautics—pneumoperitonem," Dr. Clyde McNeil. "Sticking the Brownies—surgical experience in Korea," Dr. J. D. Bigger. Besides the Halstead Hospital staff there were present: Drs. Max Miller, M. C. Martin, E. L. Kalbfleisch, W. F. Schroeder, J. L. Grove, R. C. Porter, J. T. and Lucena Axtell, L. T. Smith, of Newton, and Dr. Freisen of Sedgwick, Kansas. Dr. Schroeder was received into membership by transfer from Marion County. The proposition to hold a baby clinic under the auspices of the State Board of Health was approved. Adjourned.

M. C. MARTIN, Sec. protem.

ATCHISON COUNTY SOCIETY

Regular meeting of the Atchison County Medical Society was held September 5, in the Chamber of Commerce.

Dr. T. C. Orr of the University of Kansas Medical School read a very comprehensive and instructive paper on "Intestinal Obstruction." In treatment Dr. Orr laid stress on the value of the normal salt solutions showing by his experiments with dogs that the salt is necessary to maintain life in these cases.

Dr. G. Wilse Robinson of Kansas City, Mo., read a timely and very interesting paper on "Poliomyelitis." Both papers were freely discussed and a vote of thanks was tendered the doctors for coming so far to visit our society.

Dr. Virgil Morrison, Dr. John O. Murrin and Dr. Lee Cowan, all of Atchison, were elected to membership. Communications from Mrs. D. W. Campbell and Mrs. E. P. Pitts expressing thanks for flowers and expressions of sympathy were read and filed. Drs. R. F. Allen of Doniphan and J. E. Thompson of Huron were guests of the Society. Meeting was followed by a Smoker.

T. E. HORNER, Sec'y.

BUTLER COUNTY SOCIETY

The meeting of the Butler County Medical Society held Friday, September 21, at the El Dorado Hotel, was one of the most interesting held in recent months. Dr. E. S. Edgerton, Councillor of the Sixth district, Dr. E. D. Elbright, president of the state society and Dr. J. W. Cheney, president of the Sedgwick County Society, were present from Wichita, and Dr. R. W. Moore and Dr. W.

E. Janes of Eureka. Dr. F. F. Lemon of Douglas, Dr. R. J. Cabeen of Leon, Dr. F. A. Garvin, Dr. G. A. Spray, and Dr. J. C. Buntin of Augusta; Dr. H. G. Schaumloffel, of Rosalia, attended. Eldorado physicians in attendance were Dr. F. E. Dillenbeck, Dr. W. J. Eilerts, Dr. Anna Perkins, Dr. H. M. Lyle, Dr. L. W. Fowler and Dr. J. D. Musick.
W. J. EILERTS, Sec'y.

WILSON COUNTY SOCIETY

The Wilson County Medical Society had their annual picnic meeting at Dum Station, being served a first class chicken dinner by Mr. Temple.

The following members and the wives were present: Dr. and Mrs. A. C. Flack, Wiley, Butin, Young and Duncan of Fredonia. Drs. B. P. Smith and wife, McGuire, Sharpe, McCoy, of Neodesha. Dr. Addington and wife, Altoona. Dr. Woods and wife, Dentist of Altoona, were guests.

There being no business, an enjoyable evening was spent in relaxing and doing as we pleased. A sample of more than first class whistling was given by Dr. Butin, accompanied on the piano by Mrs. Butin.

The Society suffered an irreparable loss in the death of Dr. R. K. Dodge, of Fall River, Kan., which occurred August 27th, cause, apoplexy, of two hours duration.

Next meeting at Fredonia in October.

E. C. DUNCAN, Sec'y.

DEATH OF DR. R. K. DODGE

Dr. R. K. Dodge, a well known physician and highly respected citizen, died August 27, 1923, at his home in Fall River, Kansas, of cerebral hemorrhage. Dr. Dodge was fifty-nine years of age. He practiced his profession in Fall River thirteen years, where by his self-sacrificing devotion to his calling, and an engaging and sympathetic personality he won a very high standing in the community and in the counsels of the medical profession. He was a member of the Wilson County Medical Society, though living in an adjoining county, and contributed much to its success by regular attendance and sustained interest. He was also a member of the Kansas Medical Society, and the American Medical Association. A large number of the members of the Wilson County Medical Society attended the funeral which was held at Fall River, August 29, under the auspices of the Masonic Order of which the good doctor had been a consistent member for many years.

F. M. WILEY,
E. C. DUNCAN,
Committee.

RENO COUNTY SOCIETY

The following resolutions were adopted by the Reno County Medical Society on the death of Dr. Blasdel:

RESOLUTIONS

As we have been called upon to perform the last sad rites in case of Dr. G. A. Blasdel, it is fitting that we should express in a general way our appreciation of him as a doctor and a fellow citizen.

As a citizen and neighbor he always stood for the highest ideals of civilized life as represented by our Democratic form of government.

As a doctor he was always abreast of the times, studious, painstaking and alert to become efficient in every procedure that might benefit the sick and prevent disease. He was strictly honest, ethical and fair in his dealings with all the members of his profession.

He took a deep interest in our local, state and national medical societies, and was an untiring worker for their good.

In dealing with his patients he was conscientious, careful in diagnosis and anxious that they should get the very best treatment that approved scientific medical practice had to offer.

In view of these virtuous and good qualities, we feel that we have lost a valued member of the medical profession, and a worthy citizen and neighbor.

We would recommend that the above be spread upon the minutes of the Reno County Medical Society, and a copy be sent to his widow.

C. KLIPPEL,
C. A. MANN,
H. M. STEWART.

SHAWNEE COUNTY SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held Monday evening, October 1, at Pelletier's Tea Room. The meeting was preceded by a dinner for the members of the Society.

Dr. H. M. Conner, formerly a practicing physician in Topeka, but now associated with the Mayo Clinic, presented a paper on "The Diagnosis of Conditions Associated With Splenomegaly."

Approximately sixty physicians attended the meeting.

EARLE G. BROWN, Sec'y.

GOLDEN BELT AND CENTRAL KANSAS SOCIETY

A joint meeting of the Golden Belt Medical Society and the Central Kansas Medical Society was held at Ellsworth, Thursday,

Oct. 4. The program consisted of the following:

1. Headache, by Dr. E. G. Ganoung, Salina. Discussed by Drs. Perry Lloyd, Anderson; Alfred O'Donnell, Yates; Karl A. Menninger, Beckman, Cheney, Ganoung.

2. Golden Belt business meeting held; minutes approved, bills allowed, dues announced. Place of meeting to be decided on later.

3. Paper, "Hay Fever," by Dr. Ned Cheney, Salina. Discussed by Drs. Riddell, Car, Conover, Ganoung, Fansler, Gray, Klingberg, Zerzan, Cheney.

4. Paper, "Insulin in the Treatment of Diabetes Mellitus," Dr. Carl Cramm, Russell. Discussed by Drs. Pihlblad, Moses, Heaston, Fansler, Zerzan, Harvey, Ganoung, Cramm.

5. Case presentation by Dr. W. A. Carr, Junction City. Discussed by request by Dr. Karl A. Menninger, also by Dr. Conover.

6. Dinner at the Presbyterian Church served by the Presbyterian ladies. During the course of the dinner the Golden Belt Medical Society concluded its business with votes of thanks to the Presbyterian ladies, the Ellsworth doctors, including Dr. Davis of Kansas, and the Central Kansas Society. Salina was selected as the place of the next meeting, defeating Topeka and Junction City.

7. With the officers of the Central Kansas Society presiding, the meeting was reopened at 7:30 in the Masonic Hall. A paper by Dr. H. St. Clair O'Donnell on Pulmonary Embolism was discussed by a great many physicians.

8. Dr. Karl A. Menninger's paper on "The Treatment of Neurotic Women," was postponed until another session.

9. Dr. C. C. Conover, of Kansas City, presented a paper illustrated with lantern slides on the Effects of Infectious Disease on the Circulatory System. This was not only a carefully prepared scientific study but contained much of practical clinical importance and value. A great deal of discussion followed. A vote of thanks was tendered Dr. Conover and the meeting adjourned.

The Northeast Kansas Medical Society will hold its regular semi-annual meeting at Topeka, Thursday, November 8.

Clinics will be held at the several hospitals in the forenoon, a luncheon will be given by the Shawnee County Medical Society at noon. A program is being arranged for the afternoon session.

DEATHS

Dr. Robert K. Dodge, Fall River, aged 59, died August 27, 1923, of cerebral hemorrhage. He was graduated from Missouri Medical College, St. Louis, in 1887. He was a member of the Kansas Medical Society.

John Milton Latta, Wichita, aged 70, died August 25, 1923, following a long illness. He was graduated from the University of Michigan Medical School, Ann Arbor, in 1883.

Hiram W. Marsh, Winfield, Kansas, aged 89, died August 27, of senility. He was graduated from the University of Michigan Medical School, Ann Arbor, in 1866.

Dr. Hugh M. Barnes, born at Blue Mound, Kan., November 16, 1877, died of nephritis at Rochester, Minn., August 30, 1923.

He was graduated from the Kansas City Medical College in 1898. He practiced his profession in Blue Mound until he entered the military service in 1918. He was made a lieutenant and stationed at Camp Beauregard, La.

After the close of his military service he moved to Colony, Kan., where he practiced until March, 1923, when he was taken to Rochester where he died.

He was a member of the Anderson County Medical Society and the Kansas Medical Society.

BOOKS

The Infant and Young Child. Its care and feeding from birth until school age. A manual for Mothers. By John Lovett Morse, M.D., Edwin T. Wyman, M.D., and Louis Webb Hill, M.D., of Harvard Medical School and Children's Hospital, Boston. 12 mo of 271 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$1.75 net.

This book has been written for mothers—to tell them how to feed and care for their children until they are six years old. The instructions are sufficiently explicit to avoid confusion. It contains a considerable amount of valuable information for a small work.

Excursions Into Medical Subjects. By John B. Deaver, M.D., Emeritus Professor of Surgery, University of Pennsylvania; Surgeon-in-Chief, Lankenau Hospital, Philadelphia; and Stanley P. Riemann, M.D., Assistant Professor of Experimental Pathology, University of Pennsylvania; Chief of the Department of Pathology and Bacteriology, Lankenau Hospital, Philadelphia. Octavo volume of 188 pages and 30 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$4.50 net.

This is a compilation of a series of lectures delivered by Dr. Deaver at Washington University, Seattle, Washington, in the extension course for graduate physicians. The subjects

of the various lectures are: Peptic Ulcer, Jaundice, Diseases of the Bile Passages, Trials, Tribulations and Joys of a Surgeon, Some Surgical Conditions of the Intestinal Tract, The Contribution of Pasteur to Modern Surgery, Medical Education and Educators, Living Pathology.

Text-Book of Therapeutics including the Essentials of Pharmacology and Materia Medica. By A. A. Stevens, M.D., Professor of Applied Therapeutics, University of Pennsylvania, Philadelphia. Sixth edition, entirely reset. Octavo of 793 pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$6.25 net.

Any text book on therapeutics requires frequent revision if it is to be of any value to the practitioner. The sixth edition of Steven's work has been largely rewritten and some twenty-five new remedies have been described. His classification is convenient and practical. His descriptions are clear and concise and the therapeutic indications not so elaborate as to be confusing. Occasionally a prescription composition is suggested. It is a very convenient and serviceable book to have in one's office.

Medical State Board Questions and Answers. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic; Assistant Professor of Clinical Medicine, Jefferson Medical College. Fifth edition, Thoroughly Revised. Octavo volume of 731 pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$6.00 net.

These questions and answers were originally compiled from the questions asked by various state examining boards. To these have subsequently been added additional questions as they have appeared in the lists. The fifth edition contains a good many such additions. It is needless to say that these questions cover a pretty wide field and should be carefully studied by the candidate for a state board examination.

Practical Dietetics with Reference to Diet in Health and Disease, by Alida Frances Pattee, Graduate Department of Household Arts, State Normal School, Framingham, Mass.

The theoretical and practical side of dietetics are so treated as to insure the student's application of theory in practice. Reference to a recipe automatically calls attention to its function in nutrition. Special emphasis has been laid upon the source and value of the A, B and C vitamins and recipes in general use today. Diet in Disease has been arranged under the personal supervision of leading members of the medical profession, each giving diets used in his own highly specialized field. Particular attention has been given to this phase of dietetics. Diseases best treated by high calory, salt-free diets, etc., are especially grouped to emphasize their

importance. Methods of calculating these diets are also given.

Nursery Guide for Mothers and Nurses by Louis W. Sauer, M.D., Senior attending physician, Evanston Hospital. Published by C. V. Mosby Co., St. Louis, Mo. Price, \$1.25.

The author endeavors to furnish such information and instruction to mothers as required for the proper care of the infant. It includes such details in the care of the baby, its feeding and health as the mother should know.

International Clinics, a quarterly of illustrated clinical lectures and especially prepared original articles edited by Henry W. Cattell, M.D. Vol. II, Thirty-third series. Published by J. B. Lippincott Co., Philadelphia.

In this number considerable space is given to papers on Insulin in the treatment of diabetes. Papers by McPhedran, Banting, Harris, Hamburger and Petty. Tularaemia is discussed by Francis, U. S. P. H. S. One of the important subjects found in this number is Allergic diseases. Papers on electrocardiography, on blood transfusion, roentgen ray, chorea and a variety of surgical topics will be found of general interest.

Applied Psychology for Nurses by Donald A. Lavid, Assistant Professor of Psychology, University of Wyoming, etc. Published by J. B. Lippincott Co., Philadelphia.

There are four parts to this book. The first is introductory and considers what should be expected from psychology; and psychology in medicine and nursing. Part two deals with foundations. Part three discusses applications; and part four is devoted to the consideration of mental health. The book presents concisely some very important facts for the careful consideration of the nurse in training.

Recovery Record by Gerald B. Webb, M.D., and Charles T. Ryder, M.D., from the Colorado School of Tuberculosis at Colorado Springs. Published by Paul B. Hoeber, New York. Price, \$2.00.

This little book is apparently written for the tuberculous convalescent. It suggests the symptoms, or modifications in symptoms, indicating recovery; and the signs of danger. About one-half of the book is made up of pulse and temperature charts which the invalid may use for his record.

—B—

Oculists, Optometrists and Optical Firms

Epoch making acts usually are not recognized as such until long after their occurrence. As a rule, their significance is appreciated only after their effect upon subsequent events has had time to manifest itself. But it is possible that we who are at present engaged in the practice of ophthalmology may

be witnessing such an epoch making act, in the position recently taken by a well known wholesale optical house. Briefly stated, this firm has closed out all of its accounts with optometrists, and has announced that it will fill prescriptions only when they are signed by members of the medical profession. In addition, it proposes to inaugurate a campaign by means of which the public will be educated as to the differences between oculists and optometrists, and the essential limitations of the latter.

Heretofore, oculists have always been on the defensive against the attacks of the optometrists. In common with other "get knowledge quick" groups of pseudo-medical practitioners, the optometrists have been waging an offensive (in both sense of the word) campaign to obtain legal recognition in the several states of the union, and hardly a year passes without the oculists of some state being compelled to appear before its legislature to combat their activities, sometimes unfortunately to no avail. Whenever the oculists have appeared in an active capacity, it has been before some medical society or in some medical journal, informing their confreres of facts which they already know. They have been barred from the public press, partly from fear of appearing unethical, and partly because the public press, from motives of self interest, or otherwise, has refused to present their side of the question.

This anomalous position has long been recognized, and at the 1921 meeting of the American Academy of Ophthalmology and Otolaryngology, a Committee on Publicity and Service was appointed to consider the question of the proper method of acquainting the public with necessary medical facts. This is a step in the right direction, and if it is assisted by the action of the non-medical organizations, so much the better. The present status of refraction is an evolution from the days of the itinerant spectacle vender: but the instruction of the consumer has not kept pace with the progress of those whose duty and privilege it is to supply them with correcting lenses. Anything which tends to alter this state of affairs should be welcomed.

Another phase of this firm's action is its refusal to supply lenses to optometrists. Oculists in the smaller cities, and those in the larger ones who supply their patients with lenses thru the medium of wholesale optical houses have been forced to obtain such lenses, etc., from the same firms which supply optometrists. Not only is this true, but it is stated that some firms make a special, lower, price to optometrists, thus introducing the element of unfair competition. Optometrists are or-

ganized for action: oculists, for science. If oculists would realize what a force their united numbers could exert, by patronizing firms which cater exclusively to them, a revolution would be brought about in the attitude of other firms. They would realize that oculists would have a choice between "fair" and "unfair" firms, and many of them would undoubtedly swing into line. A decided check would be given to the activities of optometrists, for when an army is engaged in preventing the turning of its flank, it has little leisure for aggressive action. When a firm states by words and acts that it does not desire the accounts of a certain group of men, such action exerts a moral force beyond its immediate and direct results. In defending themselves from the implications produced, optometrists will hardly have time to attempt new inroads on the medical profession.—C. L. (American Journal of Ophthalmology.)

—H—

Spontaneous Attack of Tetany During Hyperpnea in a Case of Epidemic Encephalitis

This curious observation is recorded by L. F. Parker and T. P. Sprunt (Endocrinology, January, 1922). A boy, aged 18 years, during convalescence from a delirious type of epidemic encephalitis, developed attacks of petit mal type and periods of forced breathing, during one of which was a typical acute attack of tetany, lasting twenty minutes. There was bilateral carpal spasm, and Chvostek's sign was strongly positive. According to the authors, this attack of tetany would have been difficult to understand had it not been for the recent experimental physiologic studies of Collip and Backus (Am. Jour. Physiol., April, 1920) and of Grant and Goldman (Am. Journ. Physiol., June, 1920). These observers showed that tetany regularly occurs as a feature of voluntary, prolonged hyperpnea; probably as a result of disturbed acid-base equilibrium in the body. Their explanation is that the deep breathing washes out the carbon dioxid and disturbs the ratio between the carbon acid and the sodium bicarbonate on which the hydrogen-ion concentration of the blood depends. A relative alkalosis develops, and, at the same time, there is a reduction of the alkaline reserve owing to elimination of the sodium bicarbonate from the body fluid in the effort to maintain constant hydrogen-ion concentration. Other observers have previously noted in parathyroidectomized dogs a period of alkalosis just prior to attacks of tetany and that injections of acid, or of calcium salts, relieved the tetany. There are also reports of tetany following the administration

of sodium bicarbonate, and in ammonia poisoning. The authors remark that it is difficult to bring the hyperpnea experiments of the physiologists and cases such as the one here reported into relationship with parathyroid deficiency. The latter possibly may ultimately bring about a disturbance of acid-base equilibrium in the body and hence produce tetany. (*Nerv. and Ment. Dis., Year Book, 1922, Bassoe, p. 237.*)

—R—

Tapeworm Remedies

Oleoresin of aspidium and pelletierin tannate are the remedies of choice, the first being more popular. To give the remedies the best chance for action, the intestinal contents should be reduced as much as possible by restriction of solid food and evacuation before the treatment. On the morning of the treatment the patient should stay in bed and be given from 6 to 8 gm. of oleoresin of aspidium divided into as many capsules in the course of 10 to 15 minutes. Two hours later a saline cathartic should be administered and repeated every two hours until thorough evacuation has been secured. (Jr. A. M. A., Aug. 11, '23.)

—R—

The Influence of Heredity on the Occurrence of Cancer

The coincident development of the sciences of genetics and experimental cancer research, according to H. Gideon Wells, Chicago (Journal A. M. A., Sept. 22, 1923), has begun to yield evidence bearing on the relation of hereditary influences to cancer occurrence. Human statistical evidence is not of sufficient accuracy or extent to render it of any value in the study of this subject. The occurrence of cancer families is unquestionable, but of doubtful value because of the possibility that such occurrences may depend solely on chance. Family occurrence of rare neoplasms, such as glioma of the retina, multiple neurofibromatosis, and multiple cartilagenous exostoses, cannot be dismissed as depending on chance. Human evidence being inadequate, we are compelled to rely on evidence from observations on animals. It is known that the principles of inheritance are the same in all species of animals as well as in plants, and that cancer, in its fundamental respects, is the same in man as in other mammals; therefore the drawing of conclusions in respect to heredity and human cancer from observations on experimental animals is justifiable. Such observations have shown repeatedly that an important element in the occurrence of spontaneous tumors in animals is determined by the heredity of the animals under study. Maud Slye has produced, solely

through breeding, strains of mice that have never developed tumors in twenty and more generations, strains of mice in which the natural death of the adults is by cancer, and strains with less degrees of frequency of cancer occurring according to the mendelian expectation. In these animals the capacity to resist cancer behaves as a dominant character, the susceptibility to cancer as a recessive. There is evidence available which supports the inference that in man also the susceptibility to cancer behaves as an inherited recessive character.

—R—

Iodin as a Prophylactic for Goiter

The conclusion of Marine and Kimball that the administration of iodine constitutes an efficient and safe method of preventing goiter is being amply confirmed. In Switzerland the results appear even more favorable than those reported in this country and the goiter commission of Switzerland has recommended that this method of goiter prevention be instituted as a public health measure throughout the republic. In this country the schools of Akron, Kent and Ravenna counties, in Ohio, have been using the method as a routine. It has been employed in Berea and Warren, Ohio, and extensively administered in some of the large factories in Cleveland. This year the schools in East Cleveland, Shaker Heights, Warren, Niles and Findlay, Ohio, Grand Rapids, Mich., and Hammond, Ind., are using tablets, each containing 10 mg. of iodine in the form of an organic iodide and each girl takes one tablet a week throughout the year. (Jr. A. M. A., Aug. 18, '23.)

—R—

The Midwife Problem in the United States

While existing legislation gives the midwife recognition but controls her ineffectually, if at all, Anna E. Rude, Washington, D. C. (Journal A. M. A., Sept. 22, 1923), states that the problem still to be solved is whether adequate provision shall be made for medical attendance at every confinement and the midwife abolished, or whether midwives shall be trained and practice under strict supervision and control. Obviously, there is no point in eliminating even the untrained midwife without making qualified substitutes available. With one third of the states already undertaking the supervision and training of the midwife, perhaps one may conclude that from the point of view of the public health administrator, control at least is at present a necessity. Whether or not uniformity of regulation, training and supervision on a national scale similar to that of most foreign countries is feasible or desirable is a problem suggested for future consideration.

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Experiences in One Hundred Consecutive Fractures

DAVID E. BRODERICK, M.D., Wichita

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

It will be interesting, from an orthopedic standpoint, to classify the fractures treated in this series into groups showing lantern-slides of negatives selected to demonstrate particular pathological findings and draw instructive therapeutic lessons therefrom. One is struck by the variability of the series as the classification is studied. The fractures vary from a fracture of the skull to a sesamoid of the great toe. Most of the cases were referred to me from the service of Dr. H. W. Horn and I take this opportunity to extend to him my thanks.

FRACTURES OF THE SKULL

I do not personally handle skull fractures, as the bone lesion is secondary in importance to the injury of the nervous system, and I merely want to draw one instructive lesson from the skull fractures I have seen. I was called to see a case of acromio-clavicular separation by Dr. R. Love, the man having been injured two hours before. Dr. Love had left him in good condition. On our arrival he was unconscious; had on examination a hemiplegia, unequal pupils, Cheyne-Stokes' breathing, etc. He was immediately operated on by Dr. Horn, who exposed a large extrameningeal blood-clot. In these head injuries it is most important to bear in mind the typical syndrome of meningeal hemorrhage, viz., the patient is knocked unconscious, he recovers after a brief interval and seems all right; he then gradually lapses into a state of unconsciousness with focal signs coming on later, e. g. paralysis. Fractures at the base give a different picture.

SPINAL FRACTURES

The three cases cited in the series exemplify some of the important findings of the particular region containing the fracture. The fracture of the cervical vertebra, e. g.—the dislocation backward after the pedicles were fractured, the dislocation crushing the spinal cord, with total paralysis of arms, legs—and death. The thoracic fracture was of the body, accompanied by maceration of the cord. I did a laminectomy twenty hours after the injury but the cord was found in a

pulpy state. The fracture of the transverse process was interesting. There was an associated sacro-iliac strain of the other side associated with the injury. The fracture in the lumbar-transverse processes is probably not rare and is probably due to attachments near the end of the process carrying the load. Diagnostic aids in spinal fracture as given by Baetzer are: (1) angulation, (2) lateral deformity, (3) bone production, (4) involvement of the inter-vertebral space and body, (5) age.

SHOULDER-JOINT FRACTURES

The two shoulder-joint fractures shown are characteristic of the group represented. The first one is a separation of the upper humeral epiphysis. The shaft can be seen driven upward and inward, with the head at almost right angles. It is the common fracture of childhood in this region. The axis of the arm is altered as in luxation. Crepitus is often absent. There is apparently a rotation of the head. Another younger child (4 years) with the same fracture, was operated and a good result obtained. The periosteum is generally stripped and bony bridges are formed. These children should be anesthetized and reduction attempted by abduction and direct pressure under the guidance of the fluoroscope.

The fracture of the surgical neck shown is an impacted fracture in which the patient was placed in abduction and held there by plaster of Paris dressing. She made an excellent functional recovery. It was figured that it was good surgery to allow the impaction to remain rather than take a chance of non-union. There is no progression of deformity in these cases, so the preservation of form is always sacrificed to possible restoration of function. We never retain these cases in casts over four weeks, and we consider our plan of after-treatment particularly important in shoulder fractures.

FRACTURES AT ELBOW IN CHILDREN

The lantern-slides show very graphically the condition as found in fractures at the elbow in children. Perhaps in no group of fractures is that old trite and untrue statement, namely, anatomical alignment is necessarily related to functional restoration, better illustrated than in the anatomical alignment obtained by most practitioners in this

group of fractures. Handicapped as the general practitioner usually is by the absence of a fluoroscopic screen to show his apposition of fragments, it is a wonder that all of these fragments are not improperly reduced. Our routine in the reduction of supra-condylar fractures in children is as follows: The patient is fully anesthetized with chloroform (never using ether in the fluoroscopic examination); the deformity is increased, the fragments being rocked from the ulnar to the radial side, at the same time applying extension with traction and counter-traction. We follow no set routine in regard to whether the arm is dressed in acute flexion or at right angles, rather adopting that method of fixation that shows the fragments in best alignment. A moulded plaster splint with elbow region well padded is applied, the arm lying in the plaster splint. One is always mindful of the circulatory condition of the arm, this being especially so if the arm is dressed in acute flexion. In this series is found two most distressing complications, viz., a musculo-spiral paralysis and a case of Volkman's ischaemic contracture. The latter I saw in consultation and the former occurred in my own practice. The musculo-spiral paralysis cleared nicely. Always test the function of the musculo-spiral before attempting the reduction of the fracture. Those cases of paralysis of the musculo-spiral not attained at the time of fracture, have a good prognosis. The case of ischaemic contracture occurred twelve hours after the arm had been bandaged. There was also in this case a fracture of the radius and ulna, in the lower third, with ulnar and radial nerve involvement as shown by interference with the sensation of the skin of the hand and powers of the intrinsic muscles of the hand. An ischaemic paralysis may develop regardless of tight bandaging, but the two large sloughing areas in the upper third of the forearm were silent indicators of improperly applied bandages.

I always endeavor to preserve the carrying angle of the arm, and in each of the cases personally handled in this series the angle was preserved. I am inclined to doubt the great value of the carrying angle, but it is well to keep its preservation in mind. In one case, not included in this series of supra-condylar fracture, with good function except a loss of the carrying angle, the patient complained of pains in the arm and loss of strength. Nothing else could be found on examination. Passive movements should never be employed. Inter-articular adhesions are very rare in children. In these cases, dressed in acute flexion, increasing extension is permitted by the gradual active extension of the

biceps. These children will help you if you do not hurt them by manipulation. Active motion is begun at the third week. The molded splint is removed at the fourth week and the arm carried in a sling for one week. Irregularity of bone contour at the elbow is to be disregarded if function is restored. No bony limitation of motion occurred in this series. Motion is not to be insisted upon if it causes pain.

FRACTURES OF ARM

Fractures just above the wrist are disabling fractures. About 80 per cent of the fractures at this location are followed by disability. The reasons for this partial disability are: (1) posterior dislocation of lower fragment, with the articular surface turning up; (2) impaction without deformity; (3) angulation where the fragment has turned upon its axis so that while there is no displacement, yet the long axis of the wrist and fragment does not correspond to the long axis of the radius. (Baetzer.)

All impacted fractures at the wrist should have the impaction broken. In the reduction of these fractures with posterior dislocation of lower fragment, the first manipulation should be to increase the deformity by wide dorsal flexion at wrist, at the same time using direct digital pressure over the lower fragment, then bring the wrist down into palmar flexion while strong traction on the hand is being carried out. I have repeatedly seen the surgeon attempting to reduce this type of fracture by traction which was parallel to the long axis of the radius. It is needless to add that this does not replace the lower fragment. It is interesting to note three cases of Barton's fracture in the series. Baetzer claims that in 10,000 examinations of wrist fractures, this fracture was rarely encountered. Barton's fracture is a fracture thru the closed epiphyseal line. Our cases did not show any difficulty in union nor any increased disability. All fractures at this location are placed in a molded plaster of Paris splint which encloses two-thirds of the circumference of the arm. The cast extends from just below the elbow to the first interphalangeal articulation. We begin baking the fractured area at the 10th day. At the 14th day the cast is removed each day, at the office sitting and, after the baking and gentle massage, graduated active movement encouraged. The arm is then replaced in the cast. This procedure is followed daily. The cast is discarded at the fourth week.

In fractures of the arm, delayed union is not uncommon. Ununited fractures are rare except where syphilis is a factor. In this series there are two cases of delayed union:

one a "cartwheel" compound fracture of the tibia, and an operated fracture of the upper third of the forearm which had united in vicious union. Both cases have united by continuance of immobilization. If after removal of the cast it is found that there is delayed union, replace the fractured limb in a cast and wait. Prolonged immobilization is here a grace bestowed with much favor. Union is better in those bones adjacent to the trunk. If the apposition of the fragments is good and if there is no constitutional disturbance, e. g. lues, union will, in the great majority of cases, come to pass.

"Delayed repair is due primarily to delayed re-vascularization, for nature is extravagant in the normal and pathological cal-

cium flux and excessive deposit is the rule in bone injury and disease."

FRACTURES OF THE FEMUR

There is a wide variation in the methods of treatment of fractures at different locations in the femur. I will attempt briefly to give our methods of handling same without attempting any academic discussion of the various methods. For convenience of discussion let us take the method to be followed when confronted by an impacted fracture of the femoral neck. If there is no pronounced contra-indication (and age is not a contra-indication), all impacted fractures of the neck should have the impaction broken down. They are then handled according to Whitman's abduction method which is as follows: (a)

FRACTURES

Bone Fractured	No.	Location of Fracture	Complication
Skull	2	Frontal (1)	Delirium
		Parietal (1)	Ex. Dural Clot
Spine	3	Cervical (5th)	Total Par. arms, legs, etc.
		Dorsal (11th)	Paraplegia
		Trans. Process (4th) lumbar	Sacro-Iliac
Clavicle	9	Junction outer-middle 3rd	Lues (1)
Metacarp-Phalan	7		Bony Ankylosis (1)
Pelvis	1	Ramus (desc.) Pubes	
Os Calcis	3	Impaction	Pes Planus
Humerus	14	A. Surg. Anatomical neck (3)	Musculo-Spir. Parl
		B. Shaft (5)	
		C. Supra-Condylar (6)	Ischaemic Contracture
Ulna	2	Shaft	
Radius	11	Lower Third	
Barton's Fracture	3	Epiphysis	
Radius-Ulna	11	Shaft	Ununited (2)
			Median Par.
Femur	14	Neck (5)	Pathological (Carcinoma (1)
		Shaft (8)	
		Lower 3rd (1)	Refracture (1)
Tibia-Fibula	13	Head of Tibia (2) Intra-Capsular	Compound (1)
		Shaft (6)	Delayed union
		Ankle (5)	
Tarsal	4	Sprain-Frac. (I. Cuboid (1)	Rupt. Ext. Lat. Ligament
		(II Scaphoid (2)	
Jaw	1	Frac. Scaphoid (1)	
Pathological	2	Angle and Process	Delayed union, 3 mo.
		Femur (1)	Carcinoma
Sesamoid	1	Os Calcis	Syphilis
		Int. Ses. Great toe	

anaesthesia; (b) patient on Hawley table the perineum is placed firmly against upright bar; (c) full abduction of sound leg; (d) full abduction of fractured leg; (e) plaster of Paris cast on both sides, extending to middle of thigh on sound side. Dr. Whitman claims that when the abduction limit is approached, the tension on the capsule aligns the fragments in a horizontal plane and as the inner or near fragment is fixed by the acetabulum, finally forces the neck fragment against it. This mutual pressure is the first essential of stability and it is further assured by the inclusion of the line of fracture beneath the acetabular brim, by the apposition of the trochanter and by the impotence incidental to completed abduction. I have had no experience with operations on femoral neck fractures as advocated by Hunkin. One of the cases in our series is very interesting as the injury represented a fracture of the femoral neck when she was seven years of age. There is no shortening (not uncommon in these fractures in children) and the fracture is near the base of the neck. Weight-bearing was prevented, thereby saving possible angulation.

In the fracture of the shaft, we follow the plan that if the fracture is not readily reduced or there is difficulty in maintaining reduction, the fracture is operated between the 7th and 10th day. We have been able in some of our cases to merely grasp the fragments with Lane's bone-holding forceps, angulate the fragments, in order to obtain accurate apposition of fragments and carefully apply plaster cast from toes to axilla. In one case an intra-medullary splint was used with a subsequent fracture of the splint and a later healing of same. To plate a fracture of a femur is no more rational, from a security standpoint, than to merely appose the fragments. The muscle pull will angulate or displace fragments as readily with a plate as without one. The same may be said of kangaroo tendon. The simpler the teaching in regard to handling these fractures and the less complicated the apparatus championed by enthusiastic orthopedic workers, the more efficient will be the treatment of these cases by the men who handle most of them—the general surgeon. The popularity during the war of the Thomas splint supports this assumption.

Improperly applied traction is pernicious and painful. Be solicitous of the patient who complains of pain after immobilization of any fracture.

FRACTURES AT THE ANKLE

There are two very important factors which must be ever in mind in dealing with injuries adjacent to the ankle joint: (1) the foot must

always be placed in its normal alignment to the leg; (2) fracture reduction must always guard the weight-bearing line. Failure to observe these two points causes much disability. Prevention of backward displacement of the foot—of foot-drop—by dressing the foot at right angle and the prevention of eversion of the foot, are all extremely important. Lantern-slides of two cases of severe fracture of the tibia and fibula have been selected as examples of conservative and operative treatment. The former, in the enthusiasm to prevent an eversion of the foot, shows a slight angulation of the fibula obtained because its reduction was disregarded. In this case, flexion, extension, supination and pronation were perfect. The case in which a Lane plate was inserted could not be held because of the delirium associated with skull injury, preventing proper immobilization. The length of time to be figured in these fractures is from four to six months. Active motion is more difficult to encourage and long immobilization requires added time in the after-treatment.

FRACTURES OF THE OS CALCIS

There are three cases of os calcis fracture in these series, two old, and one seen and handled from the beginning. The contrast in the result obtained is gratifying. The comminution of the fracture, pushing the os calcis in on itself, driving the bone upward and outward, interfering with the astragalar-calcaneal joint, with its resulting interference with supination and pronation of the foot, makes the common fracture of the os calcis a very disabling one. There is, in most cases, a traumatic flat foot. Cotton has devised a method of treatment which gives excellent results as attested by one of the slides shown. The patient is anaesthetized, a hook is placed into the os calcis on either side of the insertion of the tendo-achilles and gentle traction exerted until the impaction is broken down. One can feel this taking place. The foot is then dressed with foot in plantar-flexion and a cast applied. The patient so treated has had an excellent result.

AFTER TREATMENT

With equal importance to the successful reduction and proper immobilization is to be considered that much neglected phase of fracture work—the after-treatment. If I were asked to assign the most important reason why the general profession failed in the handling of fracture work, I would answer without any heresy or disrespect, the profession's neglect of after-treatment. It is a common practice to remove the cast and instruct the patient to go on his way rejoicing and use the excellent alignment as shown in the x-ray as a basis for this assumption. Remember

that preservation of form does not assure preservation of function, that great disability may occur with trivial deformity. It may be of interest to outline briefly the method of after-treatment used in our cases.

All fractured members with adjacent joints, e. g. the knee in femur fractures, are baked for 20 minutes following the removal of the cast with an ordinary 1500 Watt therapeutic lamp. We are not concerned with any particular therapeutic value of any light ray, but we do believe as claimed, that the heat: (1) dilates capillaries; (2) softens scar tissue; (3) relieves pain; (4) favors tissue nutrition by its effect on oxidation; (5) promotes absorption and hastens elimination; (6) increases leucocytosis; (7) lowers acidity; (8) has a bactericidal effect; (9) relieves stasis.

The baking is then followed by vibratory massage lasting usually about ten minutes. The massage is gentle and guided by anatomical knowledge. The patient is then encouraged in active movement, is instructed in certain desired movements and is cautioned to confine his movements within the range causing pain. We never use passive movement. The method of handling the cases in after-treatment is repeated daily, until the patient has restoration of function.

—R— The Treatment of Acne

HOMER G. COLLINS, M.D., Topeka

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Although acne is one of the commoner skin diseases, least confused in diagnosis, its treatment is ordinarily given little attention by the regular physician. This is because of its chronicity and the knowledge that the vast majority of cases are eventually cured by nature's methods. It appears to the writer that it may be of interest to detail what in his opinion constitute the most effectual and speedy methods of curing that may be pursued by the general practitioner, and also to touch on the treatment from the pure dermatological or roentgenological standpoint.

For a better understanding of the treatment of acne, it is well to determine the clinical types, bearing in mind that all types of acne have certain features in common. The commonest sites of predilection are the face, back, chest, shoulders, and arms. The lesions consist of comedones, papules, pustules, and nodules.

The comedone constitute a clinical type in which the lesions consist primarily of black-heads, with a few interspersed papules and pustules. In this condition the skin is likely to be excessively oily.

Papular acne, as the name indicates, is so named on account of the predominance of papular lesions, as is pustular acne with the predominance of pustules, with certain minor modifications.

In nodular acne, or acne indurata, in which type the disease is usually of long standing, the pustules are large and deep-seated; the skin is likely to be shallow and excessively oily. In this type disfiguring scars are usually seen, as may also be seen in other types to a less extent. Probably not more than twenty per cent of all cases of acne are followed by scarring.

Acne is a disease of the sebaceous glands, usually appearing at adolescence, and disappearing spontaneously at the age of twenty-four or twenty-five. There is, no doubt, a disfunctioning of the sebaceous gland, or its duct, as is seen in the clogging of the duct by inspissated material, followed by an inflammatory reaction around the duct or gland. An oily skin has been considered for years as one of the prominent etiological features. Is it not feasible to look to endocrine imbalance for the cause of oily skin and the associated condition, namely acne? To find a case of acne before the period of adolescence is rare. The introduction of a new glandular activity at puberty, in the form of the internal secretions of the gonads, upsets the delicately balanced mechanism of internal secretions. We are aware that the introduction of this new substance at this period of life has a definite effect upon other skin appendages as is illustrated by the growth of pubic and axillary hair. Is it not possible that body metabolism, or the sebaceous glands themselves, are altered to a marked extent by the introduction of this new substance, probably by the endocrine imbalance resulting from the too rapid change. Assuming that it takes a period of ten years or more to bring about the balance among the endocrines and their resultant effect upon the body metabolism and skin appendages we could in this way account for the disappearance of acne without any medication. I wish I might offer you something definite in the way of endocrine treatment for this condition, but as it is only in a truly experimental stage by the few workers who are interested in this particular phase, I hesitate to burden you with any unproved treatment. However, as food for thought, I am of the opinion that the future treatment of acne will be along the line of prevention in the field of endocrinology as is the prevention of simple goitre by the use of iodides.

For successful treatment and the prevention of relapses, the diet and habits of the patient must be carefully regulated. Let me

emphasize this even further by saying that even the best local and systemic treatments are usually followed by failure unless it is possible to secure the active co-operation between the physician and patient. The acne age may well be called the *chocolate candy age*. We should exclude from the diet all pastries, candies, especially chocolates, soda water, ice cream, pork, gravy, and greasy food-stuffs. In other words, a light, nutritious, plain diet should be enjoyed. Eating between meals should be discouraged. The habits of the patient should be carefully regulated. Outdoor exercise, daily bathing, and regular hours for sleep are helpful.

Careful emphasis should be placed on the history of constipation and this should be corrected by suitable exercises, drugs, and habits. Quite often when taking the history of an acne case the patient claims to have regular bowel passages. Sometimes this means once in three days. Active bowel elimination should be secured once a day or oftener. In order to have this regime carried out successfully, it is often necessary to have the patient visit the doctor at least once each week at which time he can ascertain whether the patient is carefully carrying out his instructions.

At the time of these weekly visits the large comedones and pustules should be evacuated, care being taken not to over-treat the tissues in this undertaking. This can be done by exerting pressure over the lesion with a comedone extractor, or by the use of the old-fashioned watch-key. The area so treated should be washed with alcohol following this procedure. In the past several years, vaccines, both autogenous and stock, have been considered of great therapeutic value. In selected cases this holds true today. They are advantageous in the deep-seated type of acne.

When comedones predominate and the affliction is superficial, disappointment often follows their use. If stock vaccines are to be used, a mixture of bacillus acne, staphylococcus aureus, and albus, and bacillus coli, is advocated, beginning with an initial dose of 15,000,000 killed organisms and increasing the dose by thirty per cent on subsequent injections until a dose of 200,000,000 is reached. They may be administered once a week.

Numerous local treatments have at times been advocated. Sulphur undoubtedly enjoys the foremost place among the drugs thus used. The cleanest, most agreeable and most efficacious form of sulphur is that contained in the formula known as *lotio alba*. This consists of sulphuret of potassium, zinc sulphate, and rosewater, in proportions of one part each of the zinc sulphate and sulphuret

of potassium in thirty-two parts of rosewater. I have found it essential to properly direct the pharmacist in the preparation of this compound. The sulphuret of potassium is mixed with one-half the quantity of rosewater in a petri-dish over a waterbath. The zinc sulphate dissolved in the remaining portion of rosewater, and the resultant solutions mixed. This should give a compound presenting a fine, white precipitate on standing. If this injunction is not heeded a flocculent precipitate will result. After shaking the mixture it should be applied to affected parts with clean linen two or three times a day and allowed to dry. Some temporary roughness of the skin may be caused by this treatment and in certain susceptible individuals a marked reaction is noted for which a soothing application should be employed until the reaction subsides and then again revert to the sulphur compound. To improve the circulation in the skin, bathing the affected parts for some minutes in hot water, followed by ice water twice a day is of value.

Radiotherapy offers more for a speedy effectual cure in the majority of cases than any other procedure. In the hands of the untrained its use is at best a dangerous procedure. The proper selection of cases will result in a higher percentage of cures. Chronic cases, acne indurata, and those having excessively oily skins respond best to this treatment. In the hands of a skilled operator and with properly selected cases ninety to ninety-five per cent of cures should be attained within a period of four months, with the percentage of relapses not exceeding five per cent provided proper precautions are instituted. With properly selected cases, the only contra-indications to its use by the skilled operator are tanning and freckling which are liable to result to susceptible individuals. The treatment should always be fractional. Erythematous doses should never be employed. I, personally, use the weekly plan of treatment at which time I use a six inch spark gap, two milliamperes current, forty-five seconds exposure, the distance from the cathode to the face exactly eight inches. Two exposures are necessary at each treatment, centering the center of the tube over the highest prominence on the cheek, with the hair properly protected with leadfoil. No more than eighteen such treatments should be given in succession. Improvement resulting from the x-ray is usually not seen until after the three or four treatments and continue for a few weeks upon discontinuance of the treatments. Oftentimes twelve treatments suffice for a clinical cure. The systemic and general treatment of acne, including vaccines should also be employed while using the x-ray, and

the same instructions given to prevent relapses. Local applications, such as a sulphur compound, should not be employed while using the x-rays.

With diligent care and a zealous interest in the treatment, we should succeed in bringing the sufferers of acne to the physician instead of to the barber shops and beauty parlors where so many now seek relief, but this can only be done by producing effectual results.

—R— Hospital Ethics

ERASTUS S. EDGERTON, M.D., Wichita

Read before the Kansas Hospital Association at
Wichita, October 5, 1923.

Ethics is the doctrine of ones duty in respect to himself and the rights of others. It treats of the nature and grounds of moral obligations and the rules which ought to determine conduct in accordance with these obligations.

Hospital ethics must deal with the rules of conduct of the hospital affairs and its relation to the rights of others, and of these others the patient is the one who must be most considered. We must never lose sight of the fact that the reason we have hospitals is for the care of the sick and all the policies of the institution must be planned from the standpoint of the patient.

There is a growing tendency today to conduct our hospitals so that its particular attending staff may be able more easily and efficiently to do its work and many hospitals are even tending toward the small closed staff. True the patients of these few doctors may receive better care but we are losing sight of the fact that the average public hospital is a community institution dependent upon the people at large for its support, often asking the public for donations and endowment subscriptions and in return should stand as an institution to care for the sick of its community, regardless of the doctor in attendance so long as that doctor is ethical.

I am diverging a bit from my subject but the thought comes to me at this same time that the reason why we have chiropractors and other similar cults is that we are making the regular practice of medicine less and less attractive and too great a task for the the average young man to undertake. Our medical courses are long and expensive. I think that a very large percentage of the patrons of chiropractic drift to these men because they cannot get a physician to come when they call him or having once seen him the physician takes too little time or interest in the case, and people just naturally want to be taken care of when they are sick, and if they can't get this care one place they

will get it another. Let the medical school turn out men to practice medicine in a shorter course and let those who care to specialize as surgeons and other experts continue on and so equip themselves, but give every community enough doctors to care for its sick and let the hospital open up and encourage these men in their efforts to do their best, and the demand for the chiropractor and his kind will soon be a thing of the past.

Hospital ethics then means fairness and service. It makes no difference how elaborate the equipment, or how renowned its attending staff, its policy must hew strictly to the line of fairness and service to the patient and all that he or she has a right to expect. The hospital is not simply a hotel. When we admit a patient we assume a definite obligation and responsibility to him, which ought to be as much as to say "we hereby guarantee you all that is essential and best in your medical or surgical care, even as to the methods and conduct of your own physician."

When we talk about ethics in a hospital I think we mean simply fairness and squareness in all things. The hospital and its personnel must be ethical. The attending staff must be ethical. And in my remarks I have in mind of course more the public hospital than institutions owned and operated by individual doctors or groups of doctors.

The hospital has of late been subject to much analysis in arriving at certain minimum standards that must be attained, and much good has and will result from this. Now assuming our hospital is standard there is a certain something which we may call "atmosphere" that cannot be measured and standardized but which may make or break the institution. If the "atmosphere" is not ethical, is not fair, there are breakers ahead. One attending man must receive the same consideration that another does. One patient must be as fairly handled as another, etc. The public hospital which caters to some one or few attending men and gives these individual privileges not accorded to the others, I think makes a mistake. Very soon the others feel disgruntled and take their patients elsewhere, and in a few years the hospital is dependent on a few men only. Among these few someone gets a grievance and quits. The hospital is deprived of a large proportion of its patronage. It is at once crippled. I can see that a surgeon with a large volume of work would like to use the operating room whenever he saw fit and would like the dressing cart and the head floor nurse the minute he came on the floor but that creates a bad "atmosphere." If his business warrants let the hospital equip added operating rooms, etc., or

let him do as some of you have done, build or operate your own hospital.

It seems to me better ethics and better business for the hospital to encourage all regular men in the profession to come to it with their work with a feeling of all getting the same consideration and support from the hospital. In other words I would rather have thirty attending men averaging two patients a day throughout the month than to have three men with an average of twenty such patients. You will say that in thirty doctors there will be some who are not first class men. I'll grant you that, but I always have found that after I get to know a fellow usually I find there is a lot of good in him, and you get these men into your hospital, get them into the habit of doing things as your standardized hospital demands and you improve these fellows and they appreciate the consideration accorded them and are soon strong supporters of your hospital. I am a strong believer in a large or open staff for the hospital. It is good for the doctor. It is better for the patient. These men are going to have a practice; every doctor has some. Encourage them to care for it in your hospital. The patient is bound to get better care. He becomes a booster for your institution. Even if a doctor is a bit off color he's not going to do anything irregular in the hospital and he might if kept outside. So the hospital to be ethical to the doctors must be fair and treat them all alike.

One little point of many which the hospital must observe in order to be ethical to its patients is that it must insist that all patients pay their bills. We fix minimum charges from which revenue the hospital can operate. Is the hospital fair to its community and its future patients if it allows itself to be beaten out of its earned revenue? No. It is good ethics to collect bills due, by whatever means may be necessary. I believe an effort should be made to pass a law which would make it the same offense to beat a hospital bill as to beat a hotel bill. This would not mean that the hospital should refuse to take care of sick persons who could not pay but would make the patient declare his financial condition on admission and he could be placed in the hospital accordingly. The attending men too we have said, must be ethical. It would be good ethics for the attending man to impress upon his patient the necessity of caring for his hospital bill promptly. He usually knows of the patients pecuniary circumstances better than the hospital to which the patient comes a stranger.

It is even better ethics for a doctor to speak well of the other fellow in the hospital than outside, for the patients in the hospital are

a sort of big family and they talk among themselves, and a careless remark may create a very unpleasant situation. Staff meetings where the policies of the hospital are openly and fairly discussed and threshed out are good ethics from the standpoint of the doctor and hospital.

It is bad hospital ethics for a doctor to encourage patients to kick on and magnify the various annoyances that are bound at times to occur. It is much better to minimize these grievances in their incipency.

It is very bad ethics for doctors to conduct themselves in any but an absolutely professional manner with nurses. Kidding with nurses, criticising or ridiculing other doctors or their patients to nurses, showing nurses uncalled for favors, etc., are all bad ethics.

For a surgeon to become aggrieved or refuse to speak to another doctor because he has referred a case to a certain other surgeon is not only rotten ethics but very poor business.

For a doctor to rebuke or loudly, and in an ungentlemanly manner "call down" a nurse is the worst sort of ethics and does more to disrupt the morale and "atmosphere" of the hospital than most anything that can happen.

But why go on with these enumerations? You are gathered here for more practical purposes than for remarks of this kind. There is not an individual connected with a hospital who does not know right from wrong and if in your organization everyone will do his or her best the "atmosphere" of the place will be right. I am heartily in favor of all efforts at hospital standardization as outlined by the American College of Surgeons, but I would rather have a hospital standardized by good hospital ethics and the standard of the Golden Rule than by any other standard.

—B—

The Poliomyelitis Epidemic in Topeka

EARLE G. BROWN, M.D.

City Health Officer, Topeka

Thirty-six cases of acute anterior poliomyelitis were reported in the city of Topeka over a period of fifty-seven days, extending from July 30 to September 25, 1923. The first case reported was that of a boy eight years of age, who lived in an adjoining county, but because medical attention was not available locally at the time of his illness, he was brought to a Topeka physician who made the diagnosis and reported the case to the health department. The first case, therefore while not really belonging to Topeka, is included in this report, for statistical purposes. There was a period of eight days before the next case was reported. On the day follow-

ing the report of second case, four new cases were reported.

Table I shows the reporting of cases by sex, age, date of onset if known, and the date case was reported to the health department.

TABLE I.

Case No.	Sex	Age	Date of Onset	Date Reported
1	M	8 years	?	7/30
2	F	27 years	?	8/8
3	M	3 years	8/3	8/9
4	F	9 years	?	8/9
5	F	10 years	8/5	8/9
6	F	7 years	?	8/9
7	F	5 years	8/7	8/10
8	M	24 years	7/26	8/11
9	F	3 years	8/8	8/13
10	M	5 years	8/5	8/13
11	F	7 years	?	8/13
12	M	17 years	8/8	8/15
13*	F	28 years	8/11	8/17
14	M	14 years	8/7	8/16
15	F	13 years	8/14	8/17
16	F	10 years	8/12	8/17
17	M	23 years	8/8	8/17
18†	M	10 years	8/12	8/17
19	M	8 mo.	8/13	8/18
20*	F	5 years	8/16	8/18
21	M	29 years	8/5	8/20
22‡	F	24 years	8/19	8/20
23‡	M	15 years	8/17	8/20
24‡	F	18 years	8/17	8/20
25*	M	11 years	8/18	8/23
26‡	M	20 years	8/24	8/27
27	M	9½ mo.	?	8/27
28	M	2 years	8/25	8/23
29	F	1 year	8/1	8/29
30	F	30 years	8/26	9/1
31	F	3 years	8/30	9/4
32	F	6 years	7/23	9/5
33	F	10 years	9/3	9/7
34	F	20 mo.	9/5	9/10
35	F	9 years	9/11	9/14
36	M	9 years	9/11	9/25

†Paralysis for a period of 24 hours.

*Cases 13, 20 and 25 did not develop definite paralysis. There was muscular weakness and a partial loss of reflexes in each case.

‡Cases 22, 23, 24 and 26 occurred in the same family as case 17, which case had a paralysis of both legs. The four cases had typical onset symptoms similar to the other cases; sore throat, headache, stiff neck, vomiting and temperature. All of the four had more or less prostration, but did not develop any paralysis. They were picked up as cases and classed as "abortive" types.

All but two of the cases reported were of the white race. Case No. 27 was a male Mexican baby, nine and one-half months old, while case No. 29 was a colored female, one year of age.

As will be seen by a glance at the above table, eleven of the patients were under six

years of age, five male and six female: twenty-three or 64.4 per cent were under thirteen years of age, nine male and fourteen female; eight, or 22 per cent of the patients, four male and four female, were twenty years of age or over.

By occupation, fifteen were students; twelve were children under school age; five were housewives; two were laborers, while other occupations totaled two.

An effort was made to fill out a complete case card for each patient but this was impossible in four cases. The tabulation of symptoms is therefore based on the report of thirty-two cases as follows:

Fever	31 cases
Malaise	29 cases
Anorexia	28 cases
Pain, Neck	26 cases
Legs	20 cases
Back	15 cases
Arms	9 cases
Headache	25 cases
Prostration	23 cases
Sore Throat	20 cases
Vomiting	18 cases
Somnolence	17 cases
Hyperesthesia	11 cases
Diarrhoea	3 cases
Nausea	2 cases
Swollen joints	1 case

There were but two cases of the thirty-two, that from the history obtained did not complain of pain. In these two cases there was an onset of what was thought to be a simple gastro intestinal upset, but which was followed a few days later by paralysis. The headache in the majority of cases was frontal in type. The sore throat was the prominent symptom at the onset in many of the cases. Culture of a number of throats showed streptococcus. The throat clinically presented an intense inflammation and in only two cases was there evidence of a follicular tonsillitis or membrane. Both of these cases were negative on culture, for diphtheria bacilli.

The temperature ranged from a fraction of a degree to 104, the average range being from 100 to 102.4. Four cases were not seen by a physician until after subsidence of the preliminary symptoms and it is not known what temperature developed, although the parents were firm in the statement that "the child felt quite hot." One mother was equally certain that her child had no temperature, although there were the usual definite onset symptoms followed by paralysis. The temperature was not apparently easily controlled by the usual antipyretics.

Paralysis of the affected parts developed on an average of five to seven days following the onset. The paralysis or muscular weakness developing in thirty-two cases is shown in Table II.

TABLE II.

Left leg-----	9
Both legs-----	5
Right leg-----	4
Left arm-----	3
Both legs, both arms-----	2
Both legs, right arm-----	2
Right arm-----	2
Left leg, left arm-----	2
Both arms, right leg-----	1
Right leg, left arm-----	1
Cranial nerves-----	1

Table No. I shows that the first case was reported July 30. However, as stated earlier in this paper, Case No. 1 contracted his infection out of the city. Case No. 8 gives date of onset as July 26, while case No. 32 gave July 23, as the date of onset. Five cases were not quarantined as they had passed the period of quarantine before diagnosis was made. Consequently, these cases were picked up for record.

No two cases secured milk from the same dairymen and in one family canned milk was used and had been for some weeks. Eighteen of the patients used city water, fourteen well water.

As these cases occurred during the summer, school was not in session. There were but two general meetings, one a picnic and the other a circus, both during the month of July. From the answers obtained, so few attended these gatherings that the theory of contact there was abandoned. As the cases occurred in widely separated parts of the city, contact could not be shown as a result of church, Sunday school or theater attendance.

In but one instance could direct contact between cases be established. Case No. 7 had played with case No. 6. The probable date of onset of case No. 6 was August 1st, while the date of onset of case No. 7 was August 7. Case No. 30 gave August 26 as the date of onset. Three weeks previous to this date, three children in the family had been sick with what was thought to be an ordinary gastro-intestinal upset. Preceding this time (about August 1), these children had played with cases No. 6 and 7.

There was a splendid co-operation with the local health department during the epidemic. All theaters voluntarily placed a ban on children 12 years of age or under for a period of 10 days. Sunday schools were discontinued for two consecutive Sundays. The city playgrounds, although but a few days remained of the season, were closed by the school authorities. Cases were quarantined as reported and suspected cases were provisionally quarantined as well as direct contacts.

Of the thirty-six cases reported, but one death resulted, or a case fatality of 2.7 per

cent. This case died within forty-eight hours after onset, with a paralysis of the cranial nerves.

—————R—————

Laboratory Methods

LAWRENCE G. HEINS, M.D., Abilene

Read before the Dickinson County Medical Society.

A STUDY OF THE URINE

The function of the kidneys is a selective method of eliminating certain products from the blood. An alteration either in the ability to eliminate the normal by-products or the inability to retain certain substances which should be kept in the circulation, constitutes renal pathology.

VOLUME—Normal, day and night; abnormal, inc. or dec.

COLOR—Normal, abnormal.

TRANSPARENCY—Phosphates in alkaline urine; urates in acid.

ODOR.

FREQUENCY—Inc. quantity; irritability; retention; obstruction.

REACTION.

SPECIFIC GRAVITY—1.017-20; high and low in—

COLLECTION OF SPECIMEN—24 hour, night and day quantity.

NORMAL SOLIDS—4 per cent of total; estimate by 2.33 x last two fig. for 1000 c.c.

Urea—25-35 gm. or 2.33 per cent total weights; variation in production.

Uric acid—.7 gm. or .05 per cent total weight; inc. in leukemia; dec. in gout.

Creatinin—1 gm. dec. in anemia, leukemia, adv. degeneration of kidney inc. in typhoid, pneumonia, diabetes.

Ammonia—Next to urea is the most important of N. end products of protein metabolism. 2.5-4.5 per cent of total N. of .7 gm. daily inc. NH_3 inorganic salts, water, diabetes.

Chlorides—Next to urea in quantity. 10-15 gm. daily inc. in H_2O increase, and chloride increase dec. in pneumonia, chr. nephritis, diarrhea, rheumatism.

ABNORMAL CONSTITUENTS

Sugar—Glycosuria and diabetes. Difficult to differentiate definitely. 100 gm. of glucose in solution given 2 hours after a breakfast of a roll, butter and coffee should not give glycosuria. Glycosuria in anesthetics, after drugs, pregnancy, shock, head injuries, emotional states, and excessive carbohydrate intake. Diabetes, high sugar content. Tests, Fehling's, Benedict's, Nylander's, Phenylhydrazin.

Acetone and allied substances, due to abnormal katabolism of fats.

Albumen—Cyclic, ortho-static or accidental.

Renal—1. Changes in the blood, anemia, purpura, scurvy. 2. Changes in circulation, anemia, congestion, heart disease, pressure on renal veins. 3. Organic changes, nephritis, renal T. B., neoplasms, cloudy swelling in poisons, deg. kidney.

TESTS

Bile—Due to biliary obstruction.

Hemoglobin—Tests.

Melanin—Melanotic tumor.

Drugs—Arsenic, mercury, etc.

MICROSCOPIC EXAMINATION

Acid urine may contain any of the following: Uric acid crystals, amorphous urates, calcium oxalates, leucine, tyrosine, cystine.

Alkaline urine—Phosphates, calcium, carbonate, ammon. urates.

Tube casts—Type, structure, due to,

Cylindroids,—

Epithelial Cells,—

Pus Corpuscles,—

Red blood cells,—

Spermatazoa,—

Bacteria,—

Parasites,—

FUNCTION TESTS

Phenolsulphonephthalein; appearance in 10 min. 50 per cent in 2 hours. Intrav. appear in 2-6 min.

Urea estimation.

Total nitrogen.

Chloride estimation.

Indigo Carmine, 10 c.c. of .6 per cent intrav. appear in 6 min. green.

COMMON KIDNEY LESIONS WITH FINDINGS

Acute Hyperemia—Decreased quantity, high color, strongly acid, trace of albumen, few casts and R. B. C.

Passive Hyperemia—Decreased quantity, high color, small amount albumen, may have casts.

Nephritis—Variations, casts and albumen, quantity varies, solids, function tests low.

Renal T. B., pale urine, inc. quantity, renal cells, albumen, later alkaline urine, pus, casts rare, blood, bacteria.

Renal Calculus—Conc. urine, high color, small amount of albumen and casts, blood from pyelitis.

Pyelitis—Pus, epithelial cells, casts, albumen.

Cystitis—Acute acid urine, pus, epithelial cells, R. B. C. Chronic: alk. urine, pus, phosphates, bacteria.

Diabetes Insipidus—Large quantity, pale, low sp. gr. no albumen or sugar, output of solids inc.

Diabetes Mellitus—Large quantity, sp. gr. high, persistent presence of sugar. Acetone and allied substances may be found.

CEREBRO-SPINAL FLUID

The cerebro-spinal fluid furnishes us with

valuable information about parts of the body which are not readily accessible by other means of study. The fluid is very readily obtained by lumbar puncture and with very little inconvenience or danger to the patient. The amount obtainable varies with the pressure in the canal and furnishes valuable information as to intracranial pressure. The normal fluid should be clear and without any color. A reddish color indicates the presence of blood either from intra cranial injury or the puncture of a vessel in making the puncture. The latter should always be ruled out to make a definite diagnosis of intra-cranial injury.

The fluid may exhibit varying degrees of cloudiness, from slight turbidity to almost pure pus. In tuberculous meningitis the fluid may on standing form a very delicate cob-web coagulum.

The following are the common tests run on the fluid: globulin, gold chloride, sugar and Wassermann.

Globulin occurs normally in traces but in acute inflammations and syphilitic and parasymphilitic affections there is a notable increase. The globulin is precipitated and the amount present estimated from the precipitate. If blood is present the test is of no value.

The gold chloride test consists in mixing cerebro-spinal fluid in certain proportions with a solution of colloidal gold. Normal fluid shows no change in color; fluids from cases of syphilis and certain pathological conditions of the nervous system induce changes in the color of the gold solution from red to purple, deep blue, pale blue or colorless. The dilution at which maximum color changes occur is characteristic of different pathological conditions. Paresis, 5555542100; Luetic, 01233200; Meningitic, 0001224531.

Normal cerebro-spinal fluid gives a distinct reaction to copper tests for sugar. In the acute infections there may be no reduction while in the chronic infections there may be a lessened reduction.

The Wassermann test needs no explanation other than to say that it is sometimes positive on spinal fluid when a blood Wassermann is negative.

Microscopic examination may reveal the presence of cells or micro-organisms. A cell count may be made with an hemocytometer but must be made on fresh fluid. Any count above ten per c. mm. is considered abnormal. An increase in the total cell count with predominance of lymphocytes suggests T. B. or syphilis of central nervous system. A high count with polynuclears predominating is found in acute meningitis.

A stained smear from centrifuged speci-

men will reveal the presence of any micro-organisms. The kind of organism is determined by the ordinary staining methods and will determine the form of meningitis.

FECES EXAMINATION

The normal stool is a mixture of water, undigested and indigestible remnants of food, digested foods carried out before absorption can take place, products of the digestive tract, mucus, products of decomposition, gases, epithelial cells from the walls of the canal and harmless bacteria. Pathologically we may find abnormal amounts of normal constituents, blood, pathogenic organisms, animal parasites and their ova and biliary and intestinal concretions.

Stools for examination should be passed into a clean receptacle and examined as soon as possible. If looking for ameba the stool should be warm and kept so until the examination is complete.

The quantity varies with the amount of food taken. The form and consistency is altered by cathartics, diarrhea, constipation and obstruction in the rectum. The color is altered by drugs, diet, blood, absence of biliary pigment as in biliary obstruction and in dietary disturbances in children. The odor is due to products of decomposition.

Excessive quantities of mucus occur in inflammations of the large intestine, dysentery, ileo-colitis and intussusception.

Indigestible substances may be readily recognized.

Animal parasites or segments of parasites may be found in the stools. The most common in this part of the country is the tape worm.

Curds occur in the stools of infants due to imperfect digestion.

Blood can be detected by special tests such as the benzidine test and serves as value in the diagnosis of gastric cancer or ulcer. Bleeding hemorrhoids must be ruled out.

Microscopically remnants of food, epithelial cells, pus, red blood cells, bacteria, parasites and ova may be found. The micro-organisms can be studied by the ordinary bacteriological methods. Ameba may be recognized by their characteristic ameboid movements. The ova of parasites may be made out by their clean-cut margin and mathematical symmetry. They are larger than most of the objects which they might be confused with. With the exception of the uncinari they are stained with bile and appear brown.

BACTERIOLOGIC STUDY

In general bacteria are stained to determine their morphology, reaction to special methods, and the presence or absence of certain structures as, spores, flagella and capsules. For the ordinary purpose of determining the pres-

ence of bacteria the methylene blue stain will suffice. Smears are made on slides or cover slips, dried in the air and fixed in the flame. The stain is then applied for the desired time and washed off. The specimen may be examined immediately or mounted for permanent use.

Certain organisms when treated with gentian-violet and iodine retain the stain when subsequently treated with alcohol, while others lose it. The former is the Gram positive and the latter Gram negative organism. It is then necessary to counter-stain to determine the presence of Gram negative organisms as they take on the counter-stain. The important Gram negative organisms are: gonococcus, meningococcus, *M. catarrhalis*, —B, influenza, B, typhosis, B, coli communis, and Kock-Weeks bacillus.

The acid-fast bacilli, of which the tubercle bacillus is the most important, stain with difficulty but when stained, retain the stain even in the presence of mineral acids. The rest of the field is then counter-stained and the T. B. stand out the color of the primary stain with the remainder of the field the color of the counter-stain. This makes it possible to recognize tubercle bacilli when only a few are present.

The pneumococcus has a capsule which appears as a halo around it and aids in its diagnosis. The capsule may be stained by special capsule stains.

The B. diphtheria is stained by methylene blue but a Ponder's stain will show them up much better and show the granules. The slide can be counter-stained for the presence of Vincent's Angina. A smear made from a throat culture is much more satisfactory in suspected diphtheria.

Serum from a primary sore may be stained by special method or mixed with India ink and examined. In the latter the spirochaeta appears as a clear figure against a black background.

Organisms can be examined in solution by the hanging drop method which detects motility or agglutination properties.

The dark field examination for spirochaeta pallida is made by taking smears from the lesion and examining them under a dark-ground illuminator in which the motile organism may be seen.

—B—

"According to Galton's law of inheritance each individual inherits half his tangible traits from his parents, one quarter from his grand parents, one-eighth from the great grandparents, and so on in decreasing ratio." This accounts for the dis-harmony in some of us.

The Cause or Causes of Hypertension

A. C. FRACK, M.D., Fredonia

Read before the Wilson County Medical Society at Fredonia, Kansas, October 22, 1923.

The cause, or causes, of hypertension is still an open book with little prospect of it being closed perhaps for many years to come. Investigators are simply investigating and accumulating facts from which many theories are formed. Many of these theories are apparently disproven by the next investigation.

In writing this paper I have gone through an immense amount of literature and am giving you some of the facts and theories of the leading investigators. Let us first consider what is high blood pressure. As there is a certain amount of individual variation, more than one reading should be taken. A difference of 10-15 mm. in the systolic pressure should not necessarily be regarded as of any significance. On the other hand, the discovery of a high blood pressure in its early stages, before the onset of secondary or structural changes, has a great prophylactic value. The normal blood pressure gradually rises from birth. One author adds 100 to the age for the upper limit, and takes one-half the age for the most satisfactory healthy systolic pressure. The diastolic is three-quarters the systolic up to middle age, but after this it falls and may be only one-half the systolic. Difference in blood pressure in the two arms may be due to physiologic or pathologic factors, such as advanced one sided arteriosclerosis, aneurism or tumor.

Males are more often the subject of high blood pressure, and heredity undoubtedly plays a part. It is not the heart's force that produces high pressure but the condition prevailing in the blood vessels, chiefly in the arterioles and capillaries. If the elasticity of these vessels or their lumen is seriously disturbed, loss of efficiency takes place for the normal circulation in the blood vessels. Loss of elasticity means more work for the heart against higher resistance, that is, more pressure is required. The changes of the lumen of these small vessels are due chiefly to arteriosclerotic processes, functional narrowing or occlusion. In normal cases the capillary network acts like a suction pump causing the blood pressure to remain normal. But as I said before there exists a hereditary disposition to functional high pressure.

Vallhard in discussing this phase of the cause of high blood pressure says that the resistance to the flow of blood through the arterial system is due to a spasmodic condition of the circulatory system. We see two types of patients with high pressure; one is pale and the other is ruddy. This difference

can not be explained by the force of the heart beat. Vallhard says that in pale patients there is a general spasm of the blood vessels which is absent in the red patients. If then high blood pressure is due to obstruction in the vascular system, what is the cause of the obstruction? Much has been written for and against the theory that it is due to renal disease. Undoubtedly some cases are due to renal diseases. For in these conditions we find certain poisons in the blood, (epinephrin, peptones and other poisons) which cause spasmodic contraction of the blood vessel walls. Vallhard quotes the experiment of D. Boonstein of Hamburg on himself. He caused a small dose of epinephrine to be injected into his arterial system; syncope followed. Artificial breathing had to be maintained for over an hour, albumen appeared in the urine and the blood pressure went up to more than 200. Months elapsed before all consequences of this experiment passed away. In advanced age the blood vessels lose in elasticity but increase in capacity. The diminishing force of the heart co-operates with these factors to regulate the blood pressure and keep it at the normal level. If therefore, the heart continues to work with its former force while the blood vessels lose elasticity, high pressure occurs.

Professor Pal has proven that the chief region for the regulation of blood pressure is the capillaries in the intestinal circulation. Spasmodic conditions there tend to produce acute hyperemia in other parts, especially the brain. In advanced arteriosclerosis, such a sudden strain thrown on this delicate system of blood vessels may easily produce a hemorrhage. High pressure is often observed in patients suffering from constipation, mental worry or as an hereditary trait. Careful attention to digestion is one of the chief factors in prophylaxis. Other poisons in the system besides those emanating from the kidneys, mentioned above, are retention of nitrogen, oxygen deficiency, carbon dioxide excesses, lactic acid, acid phosphates and bacterial toxins in the blood stream. If the above theory that toxins floating in the blood stream cause spasmodic contraction of the arterioles and ultimately a sclerotic condition of the arterial walls, the treatment must be prophylactic. We must eat moderately of suitable foods and live hygienically.

—————R—————

Is it peculiar to K. U.? A press report states that Dr. Hayden had examined the extremities of 500 co-eds at the University of Kansas and found only two perfect pairs, and one of these two possessed by a Chinaman.

THE JOURNAL

of the

Kansas Medical Society

W. E. McVEY, M.D. - - Editor

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Physicians' Indemnity Insurance

At the last annual meeting it was suggested that the State Society should, by increasing the annual dues of all members, create a fund the income from which would reimburse those members who were so unfortunate as to have been compelled to pay judgments in malpractice suits. The proposition was referred to a committee. The committee considered it inexpedient to make a report without more time for investigation and study. It therefore reported back an amendment for an increase in dues; as such an amendment would necessarily have to lie over for one year which would give the committee time to ascertain such facts as might be available.

The proposal grew out of certain complications which had repeatedly arisen in the defense of cases in which our Defense Board and an indemnity company were both interested in defeating the action, and in which it appeared that the Society through its Defense Board had to bear all the expense.

The committee was instructed to investigate the situation and determine if it would be possible to evolve some plan of co-operation by which the expense in such cases might be fairly adjusted between the Society and the indemnity company issuing the policy to the

defendant member. It seemed at one time that a satisfactory solution had been reached, but the death of Mr. McKeever, the attorney for the Board, complicated matters. It is still hoped that a satisfactory arrangement may be reached by which our present defense system may be continued and some plan of co-operating agreed upon in these special cases. Such an arrangement would clear the situation that engendered the idea of an indemnity fund and would obviate the necessity for its further discussion.

With, as yet, nothing definite to report along this line, the proposal to create a fund for indemnity purposes is still to be considered and must be acted upon at the next annual meeting. Since it is a matter that concerns each member of the Society he should have some voice in its final disposal. Delegates to the next annual meeting should be instructed to vote for or against the amendment to increase the dues, since this will decide for or against the indemnity fund.

It may be well to restate as concisely as possible the propositions with the arguments submitted and the objections which have been offered.

In the first place the plan contemplates the continuance of the present defense system, as is, for the defense of all members sued for malpractice. In addition to this, however, it proposes to increase the dues five dollars a year, and to place this amount in a fund to be invested and to be drawn upon only for the reimbursement of those members who have been compelled to pay judgments after a full and complete defense by the Defense Board—the expense of this defense to be paid out of the Defense Fund already provided for.

It is also proposed that those joining the Society during the creation of the fund or after its completion shall pay into the treasury an amount equal to that paid by other members of the Society.

Those who favor the proposal claim that five dollars from each member would in ten years create a fund the income from which would be sufficient to provide for all judgments likely to be rendered against members of the Society. Their estimate is based upon an average membership of 1500 which would

yield at five dollars per member, \$7500. This placed at 6 per cent compound interest and increased by \$7500 each year would in ten years amount to more than \$100,000, provided, of course, no losses are encountered during that period. This estimate is also based upon the experience of our Defense Board during the past ten years, in which sixty cases have been defended and in which time but one judgment of more than one dollar has been rendered against a defendant member.

There are several uncertain factors in this calculation, and the accuracy of the estimate will depend upon whether the average membership can be maintained at 1500. Will the increase in dues cause the lapse of a large number of members? If so, will the opportunity to secure good indemnity protection for one-third the present cost induce enough others to join the society to maintain the average? It is doubtful if any one is prepared to answer either question with any degree of confidence. Another uncertain factor lies in the rate of interest, although at this time it is definitely stated that an accumulating fund of this kind can be placed at 6 per cent compound interest. The next and most uncertain, and at the same time most important factor is the amount of depletion on account of judgments the fund may suffer during its creation. It is readily seen that during the first few years a few judgments would be disastrous. The only guaranty of success lies in the past ten years experience of the Defense Board which of course does not assure us that the experience will be repeated during the next ten years. All risks of this kind are based upon averages, made up from experiences, and our average loss on account of judgments if based upon our past ten years experience would be \$500 a year, or thirty-three and a third cents per member. This would be poor consolation if several judgments had to be paid while our fund was in its infancy. It was suggested however by the late attorney that a judgment would not have to be paid inside of two years, for at least that much time would be consumed in the various courts.

This estimate of probable loss is made somewhat uncertain and indefinite by the fact that

all of the suits for malpractice against members of the Society have not been defended by our Defense Board. Just how many of such cases there were during the ten year period and the amount of the judgments paid during that time has not up to this time been determined. This information if it could be obtained might effect the estimate considerably.

The question has been raised if the fund accumulated in ten years would be large enough to guarantee full protection. Those who have favored the plan call attention to a recent advertisement of the largest, now the only, physician's indemnity company in the country—probably in the world. In this advertisement the assets of the company were stated to have been \$130,237 in 1910. The policy holders of this company at that time must certainly have outnumbered our present membership. The fact that the assets of this company increased in twelve years from \$130,237.00 to \$1,401,975.00 speaks for its stability, its wonderful business management which has so rapidly increased the number of its policy holders, and for the excellence of its defense system which has kept its losses down to the minimum; but it also suggests that these risks are not extremely hazardous.

It is not a doubtful conclusion that a fund of \$100,000 would afford an income sufficient to meet all demands for indemnity, although emergencies might require that the principle be drawn upon.

If the Society had begun to accumulate a fund ten years ago it would now have \$100,000.00 invested and the first year's income from that would be available to pay the only judgment rendered against one of our members during that period. But the Society did not begin ten years ago. We do not have \$100,000 now, we could not possibly raise that amount by one assessment, and it is a precarious gamble to put five dollars a year on the venture that there will be no judgment to pay until the fund shall have reached an amount sufficient to offer sure and certain protection.

Besides the uncertain factors in the estimates given there is still to consider the difficulty of determining how a group of men, as large as our membership, would react to

the various situations likely to arise. One may safely predict that these reactions would vary considerably but it requires but little study of human nature to predict that if one or two judgments had to be paid during the first few years of the fund accumulating process, a large majority of members would object to paying further dues and would repeal the act.

A considerable number of members have freely expressed objections to the proposed indemnity plan, without regard to the question of its feasibility, its possible economy, or the prospect of its successful issue. There are a good many who, having implicit faith in their own immunity to suits for malpractice, object to paying for the protection of surgeons and specialists. Many of the surgeons and specialists, however, object on the ground that they would be compelled to carry other indemnity insurance during the formative period of the fund and that when formed it would not offer as safe protection as a company with millions of dollars behind it.

There are others—perhaps more than in any other group—who object to assuming any financial risks that some one else can be hired to assume even though the expense may be considerably more. There are still others who, under any circumstances, would continue to carry indemnity insurance and would not ask the Society to assist in defending them in a suit for malpractice because they would not permit the details of such a suit to be presented before the members of the Society. Not, however, because such details would in themselves be embarrassing nor because of any fear that they would fail to receive the hearty support of the Society in their defense. But there is still in our profession enough of jealousy, enough of enmity, to balk the best intentions of the most altruistic of its members—to defeat the highest and best purposes of fraternal organization.

There is still another group, the size of which one is unable to estimate, who are unable to carry indemnity insurance and who see no need for such protection. They are immune to suits for malpractice because they are known to be judgment proof.

These objections are all valid, or they seem

to be so to those who make them, and that is what really counts in the voting and it is what counts in estimating the co-operation upon which the successful issue of any such undertaking as that proposed must depend.

As a purely business proposition it would seem that an average loss by judgment of \$500 or even of \$1500.00 could be economically handled by the Society; and although the data are not yet available to show what the exact amount of this loss is in Kansas, for both the Society and indemnity companies, it is not likely that it would reach that figure. Such a plan would no doubt appeal to the business sense and economic tendencies of the membership, except for the very important fact that the Society has no assets that would guarantee the payment of a single large judgment or several small judgments should they fall in rapid succession.

The committee has still in hand the proposition to arrange some co-operative basis between the Society and some indemnity company so that our defense fund may be relieved from an unfair burden. The Medical Society of the State of New York has an arrangement with The Aetna Life Insurance Company for what they call a Group Policy. Members make application for this policy through the State Society and the policy is held in trust for the member by the Society's attorney. The rates vary according to the amount of insurance, from \$18.00 for a policy covering a single claim or \$5000 and total claims of \$15000 in one year, to \$42.12 for a policy covering a single claim of \$50,000 and total claims of \$100,000 in one year. Contracts at these rates are made for three years, premiums payable annually. The Aetna Company and the State Society co-operate in the defense of cases. The secretary writes that 50 per cent of the members of the Medical Society of the State of New York carry this policy and others are rapidly applying for them. The rates offered are, so the secretary writes, considerably lower than those offered by any other company to physicians in New York. Experience in Kansas for ten years would indicate that rates considerably lower than these could be profitably made in this State on a co-operative plan such as the one

in New York. We should be able to make some arrangement similar to that in New York and we understand the committee is working toward this end.

Another objection to the proposition under discussion was suggested by a man outside of the medical profession, but there are many no doubt whose views coincide with his. His opinion was that medical societies were purely scientific bodies and should not attempt to enlarge the scope of their functions beyond the presentation and discussion of scientific papers, etc. It is an old tradition that theology and medicine are incompatible with business. Modern medicine at least has grown away from the old idea. Its scientific progress has necessitated the adoption of business principles by the profession and the results have demonstrated that medicine and business are not only compatible, they are adjutants.

The Kansas Medical Society was never a purely scientific organization. Very early in its history much attention was given to professional conduct, medical legislation and everything that concerned the welfare of the profession. Even its charter suggests a larger scope of action than would be expected from a purely scientific body. Its charter provides that it may fine its members for misconduct, that it may sue and be sued, that it has all the rights and privileges of a natural person, and it was further given the privilege to examine and license students of medicine to practice in the State.

There is no good reason why the Kansas Medical Society should not extend its usefulness to the profession whenever and wherever it may do so. That such features of mutual benefit do not detract from its function as a scientific body is readily shown by comparison of the programs of the successive annual meetings.

Every trade has its union for the protection of its members. Retail merchants of every description have their associations for mutual aid and protection. Manufacturers also have their associations of various kinds. In every kind of industry there are organizations both of the employers and the employed, because these organizations facilitate

co-operative relations and because they afford mutual aid and protection. It is hard to understand under what policy the medical profession alone should be restricted in its efforts for mutual benefit.

R

It is unfortunate that one must clutter up the pages of the Journal with matter that is irrelevant to its purposes and of no particular interest to anyone. However, when statements made in these columns are unfair or incorrect, due acknowledgment must be made. In a discussion of a controversy concerning the existence of a Christian Science lobby the following statement was made:

"If they have succeeded in abrogating the police power of the state to the extent of exempting members of their cult from inspection by health officers during epidemics of contagious diseases, to the extent that they may lay and raise the quarantine at their own discretion when contagious diseases exist in their homes, and, though recognizing no pathology determine the observance of quarantine regulations upon their own diagnosis, then one must regard their influence as a dangerous menace to the welfare of the state whether it be exerted by a lobby composed of one man or a hundred."

This statement the publicity agent for the followers of this faith says is incorrect. Here is his letter.

October 8, 1923.

"To the Editor of the Kansas Medical Society,
Topeka, Kansas.

Dear Editor:

Please grant me space in your Journal to reply to the incorrect statement contained in an editorial appearing in your September number.

Christian Scientists do not abrogate the police power of Kansas or any other state, neither do they attempt to "lay and raise the quarantine at their own discretion when contagious diseases exist in their homes" or in the homes of their patients. In fact, they are obedient to the state statutes and practice their profession in accordance with the law which provides "that quarantine regulations relating to contagious diseases are not infringed upon."

No complaint of a single case of violation of any quarantine regulation has ever reached this office from any public health officer. On the contrary, the city and county health officers have recently commended the Christian Scientists for their promptness in reporting contagious cases to the proper authorities. I have before me a clipping from the Topeka Daily Capital of August 10, 1923, which states that a contagious disease of a prominent citizen was reported to the health department by the attending physician six days after the diagnosis.

As to the ability of a Christian Science practitioner to diagnose a contagious disease. The medical doctor sometimes falters as is evidenced

by another clipping in the Capital of September 27 which says that in a certain case of infantile paralysis "it was not until the patient had fully recovered that the diagnosis could be confirmed."

Cordially and sincerely yours,

HARRY L. RHODES,

Christian Science Committee of Publication for Kansas.

The P. A. probably means, not that the statement itself is incorrect, but that the inferences that might be derived from it are incorrect. No matter how good a listener one may be, he will occasionally find that statements he thinks he has heard, are proven to be only imaginary on the evidence of the supposed maker of those statements himself. In this instance the P. A. denies having made any statements that would justify such inferences as might be drawn from the paragraph under discussion. He avers that the statement he made was misunderstood and that he did not say: "We have succeeded in abrogating the police power of the state * * * We stand as well, if not better, with the health authorities than the medical profession. We even have a little advantage over the medical profession. For when a member of one of our families is sick with a contagious disease, when a boy, for instance, shows symptoms which would be recognized as measles, we notify the health authorities that there is a case of measles at that house and a card is put up, and when we think the boy is well we notify them and the card is taken down, while the members of the medical profession have to wait the full period of quarantine."

This disclaimer is admitted as competent evidence, and any inferences which may have had origin in such imaginary statements, or any conclusions made therefrom, are hereby withdrawn, recalled, expunged. This with extreme satisfaction for such statements unjustly reflect upon our most efficient health officer whose zeal and integrity in the enforcement of all health regulations is too well known to need any defense.

Misinformation is responsible for most misconceptions. Reliable sources of information should therefore be appreciated. It has generally been believed that Christian Scientists do not recognize the existence of disease, but one may reasonably infer from the above letter that they do recognize diseases

as such, not only recognize them as such but, one may infer from the above letter, they regard themselves quite as acute in diagnosing them, or more so, than the members of the medical profession.

Lest this last statement may also call forth criticism from the P. A. or some other disciple of his faith we withdraw it now.

—R—

Quality Membership

The value of the Medical Profession to itself and to the people it serves is best estimated by the quality of its members. It naturally follows that the best assets a Medical Organization such as ours can have is a high quality membership, quality in terms of citizenship as well as medicine.

It has always been the idea in the minds of most of us to be more or less liberal in our demands of prospective members. It has never been the policy to close the doors to those who have given evidence of good citizenship and good professional intent, even though handicapped by a diploma from a under rated school, providing they had been in the practice long enough to prove these things. It has been the idea, that to get these men in with honest to goodness doctors would make them better as well as increase the value of the society.

However, the Wyandotte County Medical Society is too old and has ideals and aspirations and a standing in the community which must not be jeopardized by a too liberal entrance requirement. Regular medicine has established a minimum standard which new entrants into the profession must attain before being turned loose on all the gullible public. It behooves us as a society to uphold this standard. The day of the outlaw medical school is past. We may as well put it out that a man coming here from these substandard schools, even though he has by some "hook or crook" secured a license, need not look for membership with us, at any rate until he has lived and worked with us long enough to prove his right to association with an organization of tried and true doctors of regular medicine.—Monthly Bulletin, Wyandotte County Medical Society.

No More Free Water Analysis

The following circular letter has recently been sent out from the State Board of Health Office under date, October 25.

Dear Doctor:

At the first quarterly meeting of the State Board of Health, held September 19th, 1923, a report was made on the work of the Water and Sewage Laboratory, which is located at the University of Kansas. This laboratory was established as a laboratory for municipal work, each city paying an annual fee for the analysis of its water supply, according to its population and the type and source of supply. Other work required under the rules and regulations of the Board includes the licensing of ice dealers, bottled water plants and railroad water supplies, based on analyses made in the laboratory, each of which pays an annual fee for this service. The laboratory receives no appropriation, either direct from the legislature or through the University, therefore, salaries and running expenses must be paid from these fees.

After the laboratory was established, there were requests for private analyses and a fee of \$2.50 was provided therefor, but in cases where the samples were sent in by health officers and physicians the analyses were made free of charge. The amount of this work has increased to such an extent that the laboratory is no longer able to handle it and in order to give satisfactory service will have to charge for this work. The Board therefore directed that a charge be made for all analyses made in the laboratory. On October 15th the Board of Administration approved a fee of two dollars for such analyses.

Therefore, on and after November 1st, 1923, a fee of two dollars (\$2.00) will be charged for each bacteriological analysis. A check should accompany the sample, otherwise the report of analysis will have to be held up until the check is received. Sterilized bottles for submitting samples will be furnished as in the past, and the only difference between the past procedure and future will be that a charge of \$2.00 will be made.

Fraternally yours,

MILTON O. NYBERG, M.D.

Secretary and Executive Officer.

P. S.—The Monthly Bulletin has been discontinued because of insufficient appropriation.

CHIPS

To be natural and function normally is happiness.

Podiatrist is the new name proposed for the chiropodist.

The city man gets a country home and the country man gets a city home. This vibratory movement is the salvation of civilization. Neither one has time enough left to get too good or too bad.

The Microbe family is the connecting link between the vegetable and animal families. A consanguineous relation to both families.

Identification of criminals by their finger prints was invented or suggested by Purkinje, a German physician, and later included in the Bertillon system.

The newest medical wrinkle is x-ray thought. But, as yet, it cannot be developed.

The greatest trouble of humanity today is aptly put by the old philosopher who said, "people do not know what they want and are dissatisfied because they cannot get it."

The reason insulin has to be injected under the skin to get its therapeutic effect is said to be that pepsin destroys it.

Chemists are making synthetic—artificial—fat. They call it "Intervane or immediate fat," so named, probably, because it is made quickly—while you wait. It is one more sure cure for diabetes.

"For every dollar spent on books \$27 are spent on chewing gum." Which means that people prefer to use their jaws instead of their brains.

Bifuku Tokumitsu (Japan Medical World) from a study of the biological attitude of chloroform and ether concludes that chloroform affects not only the central nervous system but also the function of the suprarenal glands, for it lowers both the blood pressure and the secretion of adrenalin. Ether affects the central nervous system as does chloroform but it sometimes augments and at other times lowers the secretion of adrenalin. If chloroform is administered to cases in which there are defects in the suprarenal glands the life of the patient is endangered.

A positive reaction in urine with Benedict's

or Fehling's solution does not necessarily indicate diabetes mellitus. Levulose reduces both of these solutions, is fermented by yeast, and gives osazone crystals which are identical with those of dextrosazone. Cammidge claims that in 25 per cent of cases where a reducing substance is demonstrated in the urine of pregnant women it proves to be levulose. It may be present in cases when the liver is seriously damaged, and it may be present in conditions having no pathological importance. If the liver is not damaged its presence should not be regarded of serious importance.

Ligation of the vas deferens close to the testis, according to the experiences of Steinach and others, causes atrophy of the seminiferous cells, but causes an overgrowth of the interstitial cells which are responsible for the hormone determining the secondary sexual characteristics, virility, energy and capacity for work. A rejuvenation, in other words, may be produced in those approaching senility with its mental and physical incapacity.

Since it has not yet been determined by what chemical or physiological processes, or by what influences, the internal secretions are regulated we depend, for the treatment of conditions due to disturbed function of these glands, upon adding to a deficient supply, or upon counteracting the physiologic effects of an excessive supply. It has not been shown that there is destruction of the islets of Langerhans in all cases of diabetes. Further investigation must some time discover the influences by which the secretion is regulated, and it is reasonable to predict that in the solution of this problem will the ultimate therapy of diabetes be found.

There seems to be quite a little discussion of late concerning high blood pressure, what it portends and what to do with it. Any attempt to generalize a discussion of this kind is not only unprofitable but may be hazardous. It would be much safer to regard a high blood pressure as a symptom or a manifestation, in one group of cases, of a variety of determinable pathologic conditions; in another group of cases, associated with no recognizable pathologic changes in the body anywhere. In the latter group it may be pertinent to ask what to do with the high blood pressure. The condition of the patient should determine the answer. If he shows disagreeable symptoms it may be well to reduce it. If he is well and happy let it alone.

The burden of responsibility for the deprecations of pathologic organisms in various parts of the body, which the teeth must assume is steadily increasing. Now comes

Chalmers (*Lancet* Oct. 20) with the proposition that the focus of the streptococcal origin seems to be the teeth and that the uterine mucosa often acts as an excretory organ for these organisms or their toxins and he thinks that many of the uncontrollable menorrhagias with redundant mushy endometrium, and fibrosis uteri, and even carcinomatous changes, are often due to some toxic factors arising in this way.

It is not improbable that greater strides in the treatment of diseases will be made when a more careful and painstaking investigation of the action of drugs in the body has taught us how to use them. Not often does one stop to think when using hypnotics that these all act in the same way—by clogging the machine. They are diffused into the living cells—especially the nervous tissues—being practically insoluble in water but very soluble in fats and fat-like compounds—lecithin and cholesterol. By diffusing into the nerve cells they change the physical condition therein, thus interfering with their activity. It is now well known that drug action is not determined directly by chemical combination with body constituents but by delicate physical processes, and in the study of these lies much of promise for successful therapy.

In one of the current medical journals there appears among the book notices one by an author with titles as follows: M.B., B.S., M.R.C.S., L.R.C.P., D.P.H., B.Sc., F.C.S., Captain M.R.C. (ret.). That is an awful load for one man to carry.

Dr. Makai, head of a surgical hospital for children in Budapest, has been treating cases with localized suppuration by injecting pus aspirated from the abscess. The abscess is not incised but the pus is aspirated and 1 c. cm. is immediately injected subcutaneously. There is no general reaction, and a local mild reaction in 30 to 40 per cent of cases. This is of short duration. Several injections may be required but in every case the abscess disappeared without incision. In cold tuberculous abscesses as much as 10 c. cm. of the pus had been injected without general reaction and with marked improvement. A case of abscess of the lung was treated in this manner and the results, according to the x-ray findings, were sufficient.

Further experience along this line may develop serious objections to this procedure, however.

"Certain external factors must inevitably work in favor of the unqualified," Elmslie, *Lancet*, Oct. 13. "Of these one of the principal is the inherent tendency of the public

to believe that the irregular practitioner must have some peculiar ability, either a special skill in methods of manipulation unknown to the profession, or an almost occult power of seeing what is wrong inside or what is the effect of his manipulations. A second factor is the unrestricted power of the unqualified to advertise, either directly or through the mouths of their patients. A third is perhaps the most important, it is that the failures of the unqualified are in almost every case hidden. The patient who visits a bone setter and is cured boasts of the fact widely, but those who are not cured or are made worse are perhaps a little ashamed that they have been gulled, they say nothing of the experience.

In the *Lancet* (Oct. 13) John Morley has a paper on the relation of gastric ulcer to carcinoma in which a series of cases and the subsequent pathologic histories are detailed. In his conclusions he states: "While one cannot deny the possibility of cancer developing in the edge of a chronic ulcer, or in some part of a stomach that is or has been afflicted by a chronic ulcer, this investigation provides no evidence that the development of cancer on gastric ulcer occurs with anything like the frequency claimed by some authorities. The evidence set forth in this paper points to the conclusion that a patient with a chronic simple ulcer of the stomach is little, if at all, more liable to cancer than a healthy individual. I find that roughly 30 per cent of cases of cancer of the stomach give rise to symptoms which simulate more or less closely those which we usually associate with simple ulcer, and I hold that it is the ulcer-simulating cancer which is responsible for the belief in the cancerous degeneration of simple ulcer."

MacLean in a paper on insulin in general practice (*Lancet* Oct. 13) states that after having determined that the patient is a suitable one for the insulin treatment, a diet should be arranged and the patient given the necessary amount of insulin to keep his urine sugar free and if possible his blood-sugar within normal limits. The patient should be put on a diet which will be sufficient for his wants and then give increasing doses of insulin until satisfactory results are obtained. This diet should contain 10 to 15 calories for every pound of the patient's weight, depending on the amount of work the patient does, etc. The protein allowance should be half a gramme or less per pound of patient's weight. The carbohydrate allowance should be small and the fat content comparatively high. In a patient weighing from 120 to

130 pounds the diet should be 65 to 70 g. of protein with 40 to 50 g. of carbohydrate and 140 to 150 g. of fat with a total caloric value of 1700 to 1800.

He says he does not see any reason why insulin should not be successfully used in general practice.

In order to determine the carbon-monoxide hazards from tobacco smoke, Jones, Yant and Berger, made some tests for the Bureau of Mines, Department of the Interior. The following is quoted from the summary of their report:

Tests were made with cigar, cigaret, stogie, and pipe tobacco. Three or more subjects remained in a closed non-ventilated room of approximately 1000 cu. ft. capacity, and smoked continually during the entire test period of 1½ to 2 hours. Samples of the room atmosphere were taken at intervals and analyzed for carbon monoxide, carbon dioxide, and oxygen content; while blood samples were taken from the subjects at the end of each test for percentage CO saturation of the blood. In every test the smoke became very uncomfortable in 15 minutes, and in from 45 to 60 minutes it became necessary to wear goggles to prevent eye irritation. In other words, each test was continued until the smoke was from four to six times more concentrated than would be permitted under ventilated conditions. The highest percentages of CO present at the end of any of the tests was never greater than 0.02 per cent, and the percentage CO saturation of the blood of the subjects were not greater than 5 per cent, even in the cases of two subjects who inhaled 20 cigarets each during the 1½ hour test period. Tests were made to determine why a smoker especially one who inhales, does not absorb more carbon monoxide into his blood. These tests showed that concentrated smoke does not reach the alveoli of the lungs, and that the maximum average concentration of CO drawn into the lungs, even if the inhaled smoke was thoroughly diffused throughout the inhaled air, would not be greater than about 0.01 per cent. This amount is no higher than may be present on the streets of some of our larger cities where automobile traffic is heavy.—Reports of Investigations, Department of the Interior, Bureau of Mines.

The so-called colorless iodine preparations do not contain iodine in the free state, but some form of combined iodine, chiefly iodic. For instance, *Tinctura Iodi Decolorata*, N. F., is a solution of sodium iodic and ammonium iodic obtained by mixing iodine and sodium thiosulphate, stronger ammonia water and alcohol. When tincture of iodine is used ex-

ternally, it is with the view of obtaining the therapeutic action of free iodine. Since the colorless iodine preparations do not contain free iodine, their external use as a substitute for tincture of iodine is irrational. When tincture of iodine is given internally, the free iodine contained in it is converted into iodide before absorption. Therefore, tincture of iodine and the so-called colorless iodine preparations given internally have essentially the same therapeutic effect. However, if a colorless iodine preparation is to be administered, it would be simpler and more rational to administer sodium iodide. (Jr. A. M. A., Oct. 20, '23).

Voegtlin and his associates in the Hygienic Laboratory of the U. S. Public Health Service have observed that certain compounds containing sulphur groups in the SH form are able to counteract the toxic effects produced by arsenoxid on trypanosomes and a representative mammal. They advance the theory that arsenic in certain trivalent forms is a specific poison for the SH group in the trypanosome organism, and that arsenic causes death of the cells by interfering with the oxidative processes. Voegtlin and his associates concluded that the failures reported in the treatment of the later stages of syphilis are due to the fact that arsphenamin, neoarsphenamin and silver arsphenamin lack the essential penetrative power for the infected tissues, and for this reason, they do not reach the last parasites in sufficient amounts to cause their death. In the effort to secure a more complete sterilization of syphilitic patients in the more advanced stages of the disease, sulpharsphenamin, tryparsamid, and 3-amino-4-oxyphenol arsonic acid are suggested for trial as remedies of superior penetrative power. (Jr. A. M. A., Oct. 27, '23.)

R

Reflections by the Prodigal

Some scientific anthropography is given us by the secular press from time to time. The inference from one writer is if you want to grow tall eat meat. He says since the Japs have added meat to the rations of their soldiers, who were heretofore fed on a rice diet, they have gained two inches in height.

Prof. Voorhies, of the University of California, finds the Swedes and Danes are a tall people, generally, and they consume 68 to 67 gallons of milk per person annually. The Italians are a short people and they consume but three gallons of milk per capita annually. The Americans are rated at average size.

These reports and suggestions may be propaganda to get people to eat and drink more

meat and milk. However, if the bee man's explanation is true respecting the "how" of the "Queen Bee" the meat and milk story is not to be wholly discredited. The "Bee Man" tells us that under normal conditions in the hive, there are thousands of eggs, each like all the others, and each destined to develop into a sterile worker. But on occasion the mature workers in the hive enlarge the cell in which one of these worker eggs is deposited and feed the larva which hatches from it with an unusual quantity of food of exceptional richness. And the individual larva thus single out for exception nurture grows and develops at a rate disproportionate to that of its fellows, and ultimately matures and becomes a fertile female, which, in the terminology of the apiary, is designated a queen. The hereditary potentiality was in the eggs of all the sterile workers and the feeding alone brought about a final development of the reproductive organs that was denied all the other larvae of the colony.

We learn from the "Honey Bee" not only the lesson of industry but how to feed to get results. And in the words of the late Dr. R. E. McVey, "Man is what he eats."

A TROUBLE BREEDER

The high heel shoe will cause the foot to change its shape if worn for a few years. A person who wears high heel shoes has a stilted walk and the head of the thigh bone will be thrust forward in its attachment to the pelvic bone. High heels are a god send to the podiatrist (corn doctor) and to the medical man.

The feet are crippled by wearing high heels and the legs and body are thrown out of their natural adjustment and breed trouble to the wearer and joy to the chiropodist.

TROUBLE BREEDER NO. 2

A chair to be comfortable should fit the sitter. The average high toned upholstered chair is not fit to sit on. The seat of a chair should be of a height that the weight of the legs should rest on the feet while sitting, the under part of the thighs barely touching the chair seat.

The length of the chair seat when sitting on it, the hips and back against the back of the chair, should permit the legs in their upright position to be at right angle with the thighs, with an interspace of half to an inch or barely touching the calves of the legs.

The back of the chair should be practically straight or a slight letter S shaped to fit the curvature of the spine. The average up to date upholstered chair is made for a giant. The seat length for the average person is so long that he has to recline on it or his legs stick out straight on a line with his thighs

or his hips and back are from three to six inches from the back of the chair, and the weight of the legs and thighs resting on the underside of the thighs pressing on the blood-vessels and interfering with the circulation of the blood in the vessels, and his feet dangling between heaven and earth.

The average swivel office chair is not fit to sit on from the fact that they tilt back and the whole weight of the thighs and legs rest on the underside of the thighs when so much of the time the sitter tilts back, in conversation or dictation.

It is true that the large blood vessels passing down the thigh and leg back of the knee are deep seated. Nevertheless the heavy pressure on the flesh interferes more or less with the circulation of the blood in them; causing at times the feet of the sitter to swell.

SOCIETIES

THE TRI-COUNTY MEDICAL SOCIETY

The Tri-County Medical Society, an association of the Cowley and Sumner County, Kansas, and the Kay County, Oklahoma, medical societies, held its fourth regular session in Winfield, Cowley County, Kansas, on September 28, 1923. Cowley County Medical Society and the city of Winfield was host of this meeting, and the session showed that no pains had been spared to provide a splendid scientific program.

Physicians from the different counties began to assemble during the forenoon and by mid-day about one hundred physicians, many of whom had brought their wives, had registered at the office of the Chamber of Commerce. The hours of the forenoon were spent in golf playing at the spacious golf grounds of the Winfield Country Club, and in visiting places of interest about the city. At 12:30 p. m. the physicians and their wives came together in the community room of the Presbyterian church where a good, generous, wholesome luncheon was served. That thought had not been stinted in preparation for the needs of the inner man was evident in the bounties served, and the luncheon was indeed a fitting introduction to the scientific feast which was to follow.

Dr. Risser, of Blackwell, Okla., president of the association, called the scientific session to order at 2 p. m. in the Elks hall. The minutes of the meeting held at Blackwell, Okla., April 19th, were read. Under the head of new business attention was called to the fact that the society had no vice president, and since the society was now permanently organized and established, it was thought best that it should have a vice president. By unani-

mous vote this honor was conferred upon Dr. Kelly of Winfield. Another matter considered was the work covered by the society. At these meetings the best scientific talent and ability from the three counties, as well as able and authoritative help from outside, is brought together for purposes of mutual helpfulness and benefit. The scientific papers presented, the various discussions, the clinics held, and the results of meetings give valuable matter which should be collected and made accessible for future need. To this end it was voted that the scientific papers presented should be considered the property of the society, and offered for publication in some good medical journal, preferably in the Kansas or the Oklahoma State Journal, and that suitable record of other association work and procedures be made.

The scientific papers presented covered questions and problems of special medical interest and were excellent and timely.

Dr. E. F. Clark, of Belle Plaine, Kansas, presented a paper on "Fungi Infection." It covered the subject in considerable detail calling attention to the four principal types of fungi infection common in disease production in man. Blastomycetic dermatitis, sporotrichosis with its accompanying subcutaneous abscess formations and thrush were dealt with in particular, and the author cited cases from his own practice in these three different groups. His case of thrush occurred in an adult. The clinical diagnosis in each instance had been confirmed by the laboratory cultivation and identification of the specific organisms, by Dr. Van Deventer, pathologist, of Wellington, Kan. The paper suggested that fungi infection was probably more common in this section of the country than was supposed. Many cases are doubtless overlooked or pass along unrecognized which might be readily identified if properly investigated.

The paper elicited an interesting discussion. Dr. Van Deventer spoke of the cultural propagation and identification of the different organisms. Dr. Calene, of Wellington, stated that the various tinia are now known to belong to the fungi group of parasites affecting man. Several spoke of the need of greater care in watchfulness for these different types of fungi infection and care in methods of diagnosis.

Dr. W. W. Duke, of Kansas City, presented a paper on "Allergy as a Common Cause of Illness." This subject is comparatively new, little having been known of it previous to a few years ago. Dr. Duke has spent much time in the careful investigation and study of this subject during the past five years and has collected some helpful and valuable informa-

tion. About all that was known on this subject up to a few years ago was the phenomenon called anaphylaxis. But allergy includes much more for it embraces the work of the causative influences as well as the disturbances and phenomena which result from them. Allergy is a condition of such altered susceptibility to certain outward or inward influences, that an unusual or overmarked reaction is experienced from the influence of the exciting cause, such as is not usually had. There are a host of these exciting agents. A few of the many external influences producing this state include pollens, odors of some plants, perfumes, road dust, animal exhalations and odors, certain drugs, dyes or chemicals, poison ivy and oak, and many more. Of the internal influences a few are certain drugs, foods, waters or other substances which, when taken into the stomach, or when the vaporous odors are inhaled produce the state. It has been definitely established that hay fever, asthma, and some other bronchial and mucous membrane affections are the direct result of allergy. Numerous cases were cited in proof. Many skin irritations, idiopathic neurotic edema, and some of the notable changes in blood pressure, as well as some gastro-intestinal disturbances and some systemic disorders result from allergy. Dr. Duke has worked out a very satisfactory method of ascertaining the specific allergic susceptibility of an individual by means of cutaneous inoculations of extracts from exciting agents. This method has the advantage also of indicating the therapeutic procedure for the individual case.

Dr. Duke's paper held the interested attention of all. It pointed out an important field in scientific medicine which will be a common and routine method of procedure during the coming years.

Dr. C. W. Arendell, of Ponca City, Okla., presented a paper on "The Relation of Diet in Infancy to Diseases of Adult Life." Attention was directed to the fundamental importance of proper dietetic measures in conjunction with environment during infancy and childhood, and the direct bearing these have upon growth, development and the future well-being of the child. The resistance to disease is directly proportionate to the vital state of the tissue cells. And the degree of vitality acquired depends directly upon diet, clothing and environment provided for the developing child, together with the degree of care exercised to prevent unnecessary exposure to contagious diseases during the years that cell vitality is being established. Longevity is measured by the degree of physical power acquired or developed by the body cells during the early years of life.

Hence the obvious importance of proper attention being given to those years. Many of the diseases of middle and later life result directly from the inadequate and unfavorable conditions during early childhood. If parents knew how to properly guard and properly provide for the earlier years of the child, by supplying favorable surroundings, clothing, and food, and protection from unnecessary exposure to prevalent diseases, they would give the child a degree of physical power which would take it through to adult life enabling it to escape most of the common diseases.

Dr. E. H. Skinner, of Kansas City, presented a paper on "Radiation Therapy." The doctor has had a wide experience in this particular mode of therapy and therefore brought a paper replete with timely and valuable information. His subject was considered under four heads, as follows: (1) Conditions Involving the Cutaneous System, (2) Disorders of the Lymphatic System, (3) Gastro-intestinal Indications, (4) Gynecological Considerations. Each division of the subject was ably discussed, numerous cases being cited in illustration. The amount of x-ray or radium radiation given must be carefully and accurately measured, and only enough given to produce the desired therapeutic result. In some conditions radiation therapy alone is the indicated procedure, while in other conditions it must be combined with surgical procedure. Carcinoma of the lip was given especial consideration on account of its prevalence. The inroads of cancer are becoming marked and vigorous measures are necessary to combat it. Carcinoma involving the muco-cutaneous junction of the lip, and particularly that involving the mucous surface, is a severe condition from the time of its very inception, and must always be so regarded. It is apt to infiltrate the lymph system very early and become systemic before the local sore is of much consequence. If the condition could be seen very early, and a complete dissection be made of the entire lymph system structures of the jaw and neck on the affected side first, then if radiation therapy be applied to the local area, the prospect for a cure would be quite probable. But to turn this method around and treat the local area first, omitting the dissection of the lymph structures, is to court defeat. Such treatment may cure the local sore, but while this is being effected systemic infection is quite sure to be produced and then the mischief is entirely beyond control. Patients do not comprehend the severity of this state and will seldom submit to such an extensive lymphatic dissection when there is only a tiny sore on the lip margin, which, they think, is quite harmless and inconse-

quential. They cannot be made to comprehend the severity of the disease and the importance of early, radical measures to prevent systemic infection. Bloodgood was quoted as saying there is practically no cure for lip cancer. From what has been said the reason for his statement is evident.

Doctor Skinner spoke of the importance of disseminating knowledge among the laity on the subject of cancer. He urged that it be taken up as a definite part of the educational campaign of every county society and every medical organization. Some time should be devoted to it every year, and at every opportunity presented at any other time.

Dr. Jean V. Cook, Professor of Pediatrics in Washington University of St. Louis, Mo., gave an interesting lecture in connection with clinics on pediatrics. The first case presented was that of a four year old child showing the effects of malnutrition. The child was very thin, having little muscular development and looked more like a skeleton of a child covered with skin. The pigeon breast was quite prominent, and the child was weak and pale. The birth was normal, being without instrumental aid, and the child weighed about nine pounds at birth. Now it weighed less than half what its age and height would normally indicate. This child was the offspring of apparently intelligent parentage. The mother was a bright, well educated woman. The parents were able and willing to provide properly for the child and wished to do so, but all their efforts had been fruitless, for it seemed that no dietetic measures used had suited the needs of the child.

While exhibiting this case Dr. Cook dwelt on the subject of infant feeding, calling particular attention to the need of providing a food containing the necessary and essential tissue salts. Foods are commonly employed which seem to nourish the infant, which do make it fat, but which fail to provide the vital elements needed in the tissues, and consequently after a few months the child becomes thin and weakly. The proper food must contain the essential elements which the growing body needs. If such is provided regularly there will be a continual, healthy and stable growth as development progresses. If lacking there will be seen a gradual falling away from normal. Patented food preparations are never so desirable as freshly prepared foods. Orange juice and various fruit and vegetable juices are essential and should be employed in the diet. Adequate clothing and good surroundings are also desirable in connection with diet and are a necessary factor in the welfare of the child.

A pair of twin girls, age 10 years was next presented. Here was a noticeable contrast.

Each had a normal birth at term. The mother was well developed, ordinarily intelligent and had given equally good care to the twins. There was practically two years difference in the mentality and growth of the girls. One was of about normal weight for age and height, and doing as well as children of like age in school. The other child had sprung up taller in stature, being practically two years ahead of the sister in growth, but was two grades behind her in the school. This one could not study, did not seem to comprehend easily, and learned with difficulty. In fact her ideation was abnormally weak. This child presented a condition of mental deficiency. This is an inherent state of brain cell deficiency and one for which little can be done medically. In such conditions the parents should be informed as early as possible that the state is one which can not be brought to normal by any known means. Institutional care and training seems to sometimes be helpful, but nothing definite can be hoped for in such states.

The third case presented was that of congenital syphilis in a male child 5 years of age. While every child has the right to be well born it has no opportunity of exercising such a right. Consequently inheritance is a transmission from the parents and not a choice of the offspring. This is an illegitimate child which came under institutional care on the day of its birth. Nothing is known about its parents, except that they brought this child into the world handicapped with the baneful blight of constitutional syphilis fastened upon its body, against which influence it has had to struggle since the day of its birth. A so-called normal healthy child has sufficient to contend with in its struggle for existence, but to be born with the hampering influences of syphilis already engrafted into every fiber of the being, makes life's prospects anything but bright. The prospect of life's span of years is nothing compared to that of the child born with normal health, for seldom does it pass the second decade. And then the years are full of peril and doubt in conflict with any other prevalent disease. Specific treatment will do much to add to life's prospects, and if persisted in may greatly neutralize, if not completely eradicate the inherited defect.

At six months of age this child had a general erythema which cleared up nicely under specific medication. At the age of three years he had a general papulo-pustular eruption which also cleared up speedily and satisfactorily under specific medication. He was given small doses of bichloride of mercury combined with iodides, internally, and at present he looks rather promising. The doc-

tor said that in his treatment of these cases his practice was to begin very early and use specific medication regularly at intervals of six weeks for a number of years. Under such care the prospect for the future years is materially improved.

The last paper presented was by Dr. J. H. McKenna, of Kansas City, on the subject, "Surgery of the Thyroid." This was a most able paper covering the subject of the thyroid and its various affections, and dwelling more particularly upon the surgical affections of the gland. Indications for operative interference and the proper operative procedure was outlined in some detail. The paper was thoroughly enjoyed, and, but for the lateness of the hour, would have had an enthusiastic discussion.

All agreed that a most helpful and profitable program had been provided and were unanimous in the expression that they had been well paid for attendance at the meeting.

The visiting ladies were nicely entertained by the Dean of Women at the Southwestern College where an appropriate program had been provided.

The next meeting of the association will be held in Wellington, Sumner County, Kansas.

Dr. RISSE, President,

Dr. HAWKINS, Secretary.

STAFFORD COUNTY

Society met in St. John Wednesday, October 10. There were present F. W. Tretbar, J. J. Tretbar, Stafford; M. M. Hart, Macks-ville; R. E. Stivinson, Hudson; C. S. Adams, L. E. Mock, J. T. Scott, St. John.

R. E. Stivinson, who has recently located in Hudson, was elected to membership. The application of F. C. Powell of Macks-ville, was presented and he was made a member. The program consisted of case reports and discussions. Arrangements are under way for an afternoon and evening session at the next regular meeting the second Wednesday in November. The afternoon program will be given over to case reports followed by a six o'clock dinner to which the sweethearts and wives are invited. The evening session will be in the nature of an x-ray and fluoroscopic clinic. The suggestion to make of our monthly meeting a monthly clinic in addition to the literary feature, was received enthusiastically. Each member is requested to bring to the regular meetings one or more case reports and if possible present the patients. By this means it is hoped to provide material for a regular clinic. This will mean practical post-graduate work in a limited way. The collection department of the State Society was discussed and the members agreed to send in their lists of delinquents. Dr. R. E.

Stivinson of Hudson, will present a paper at the next meeting the title of which will be announced later.

J. T. SCOTT, Sec.

PRATT COUNTY SOCIETY

Pratt County Medical Society met Monday, October 1st, at the Commercial Club room in Pratt. Dr. P. T. Bohan of Kansas City, gave a talk on "Diseases of the Thyroid Gland." The time at the disposal of the author was somewhat limited but most of the commoner diseases of the thyroid gland were demonstrated. The speaker held that the condition of thyrotoxicosis without goiter was more frequent than the typical Grave's disease, less frequently recognized, and just as much in need of surgical attention at times, as the toxic condition with goiter. Preventive measures and the use of iodine were discussed.

Drs. Atkins, Bernstorff, Bucklin, Campbell, Cochran, Jenkins, Maness, Martin, Philips and Ireland were present.

G. E. MARTIN, Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The regular monthly meeting of the Shawnee County Medical Society was held at Pelletier's Tea Room, November 5. Preceding the meeting, approximately 40 of the members and guests had dinner.

Dr. J. W. May, of Kansas City, presented a paper on the Ophthalmoscopic Changes in Systemic Eye Diseases.

EARLE G. BROWN, Secretary.

WILSON COUNTY SOCIETY

The Wilson County Medical Society met at Fredonia at the Loether Hotel for supper at 6:30 p. m., after which the regular monthly meeting was held in the Commercial Club rooms, and as I live in Fredonia, I will state that nicer club rooms than ours do not exist in this part of Kansas.

As over one-third of our membership attended the Clinical Week at Kansas City in October, a motion was made that the Secretary write Dr. E. H. Skinner our appreciation of the whole affair. When Dr. Skinner, the efficient President of the Clinical Week Association, would halt 1200 stampeding does with his "As you were" one could see the benefits of our army training. And the crowd was held.

Dr. W. H. Addington, our distinguished member from the banks of the Verdigris, was elected president of the Medical Society of the Southwest at Kansas City last month; this includes some six or seven states. Dr. Addington in his pleasing manner made a few remarks.

Dr. Jacoby suggested the health officer notify the neighboring physicians when a case of contagious disease is reported in the vicinity. A good suggestion.

Dr. A. C. Flack read a paper on the causes of hypertension and Dr. B. P. Smith one on the significance of hypertension. Both papers were well prepared and much discussed by everyone. Dr. Flack concluded the causes unknown, but called our attention to focal infections, kidneys, overeating, etc. He concluded his remarks by stating that prevention is better than attempted cure and should begin in early life with proper living, as moderation in eating, fresh air, sunshine, etc.

Dr. W. H. Young read a paper telling us of the life and virtues of Dr. C. A. Thomas who died in Albany, Oregon, October 11th, and was buried in Fredonia, Kansas, October 17th. The paper follows:

In behalf of the members of the Wilson County Medical Society, this expression of the utmost respect and high esteem is offered to the memory of Dr. C. A. Thomas.

Having for a number of years been a member of the Wilson County Medical Society, the Kansas State Medical Society and the American Medical Association, he proved to be an earnest worker and a valuable associate in each of these organizations.

In the Wilson County Society, Dr. Thomas had, at different times, been honored by election to the offices of President, Vice President, Secretary. These positions he always filled in a very creditable manner.

In the county meetings he was always ready to receive and adopt any suggestion which might be beneficial to patients who might come under his care. At the same time he was free to impart any information which might be of value to his fellow practitioners in their medical work.

Dr. Thomas seldom missed one of these meetings and his readiness to be of service to all, made for him a place in the hearts of the medical fraternity which will never be forgotten.

His ardent desire to serve his country was well exemplified in the World War by the fact that on June 13th, 1917, just nine weeks after the United States declared war, he offered his services to his country.

Being found physically disqualified for army service, he later accepted the appointment as examining physician on the draft board for Wilson county. In this position he fulfilled a patriotic duty in a very splendid way. During the summer of 1918 he again offered his services to the U. S. Army, but was again found to be unable to enter the service.

The Red Cross asked for his services which offer he accepted, and 1919 he was sent to Siberia where he remained for one year.

The early life of Dr. Thomas is well known by many of the citizens of Fredonia. The frequent expressions of highest regard for him, given by his early schoolmates and associates, give unmistakable proof of his standing in the community.

Having been reared in the home of his uncle, Dr. A. W. Cormack, a pioneer physician of Fredonia, the inspiration to become a medical practitioner was perhaps received in his youth. A very pronounced evidence of the earnest and effective work done here by Dr. Cormack is to be found in the fact that a daughter and a nephew who grew up in his home were so impressed by his valuable services to the community that they both saw fit to emulate his example and take up the profession for a life work. As a result there was at one time three medical practitioners in the immediate family of Dr. Cormack. A rather unusual occurrence indeed.

The faithful manner in which Dr. Thomas labored for the comfort and welfare of his patients was fully appreciated by those under his care and is well known to every physician in Fredonia who has heard the many kind and affectionate expressions of devotion from those to whom he had ministered.

His whole life was marked as one of temperance, honesty and industry. A "man of clean character" was a usual reference to his life. Dr. Thomas was graduated at the Medical Department of the University of Kansas. During the last five years of his life he gave special attention to x-ray work. Having followed this line of work while in Siberia, he, after his return, entered this specialty in San Francisco, Calif. Later he established a very elaborate x-ray plant in Fredonia, Kansas. In the passing of Dr. Thomas from our midst there is left to his memory a living monument of service and loving kindness, which is cherished more highly by members of the medical profession than any costly structure which might be erected by the hand of man. In his death the medical fraternity of Wilson County feels that a valuable colleague has been removed from its ranks. And it is with sad hearts, indeed that we offer this last tribute to our departed Brother.

DR. W. H. YOUNG.

The Society adjourned to meet in Neodesha in November. Our monthly meetings are well attended and we would not think of going back to the old three or four meetings a year.

E. C. DUNCAN, Secretary.

New York Laryngological Society

The coming celebration of the 50th anniversary of the founding of the New York Laryngological Society, which as announced by the New York Academy of Medicine, will take place November 15, 1923, commemorates an event of unusual interest. As far as can be learned this organization now the Section in Laryngology of the Academy is the oldest society in existence of the department which it represents.

In connection with the celebration there will be an exhibition representing the important contributions made to the progress of Laryngology in the City of New York.

R

DEATHS

John W. Denbo, Elk City, Kansas, aged 87, died, September 9, of senility. He was licensed in Kansas in 1901.

F. E. Hamilton, Parsons, aged 89, died September 25, 1923, of senility. He was a Civil War veteran.

Charles L. Smith, Independence, aged 57, died suddenly October 3, 1923, of heart disease. He was graduated from the State University of Iowa College of Medicine, Iowa City, in 1904. He was past president of the Montgomery County Medical Society.

Dr. Patrick Burns of Perry, Kansas, aged 76 years and 9 months, died at St. Francis Hospital, October 20, of senile myocarditis.

R

PERSONAL

Dr. F. C. Powell, of Macksville, has sold out and will remove to Los Angeles immediately. An eastern Kansas physician whose name we have not learned is taking his place.

Dr. P. K. Gaston, of Pratt, is taking post-graduate work in New Orleans.

Dr. O. W. Miner, of Greensburg, has sold his practice to Dr. Carter and is taking post-graduate work in the east.

The following Kansas physicians were among those who attended the meeting of the American Railway Surgeons' Association at Chicago the latter part of October. Drs. Hinden of Strong City, Smith of Marion, Kaster of Topeka, St. John of Concordia, and Stillman of Morganville. Stillman and St. John served their respective roads, Rock

Island and Santa Fe, on the general nominating committee for the selection of officers for this Association for the coming year. Dr. Hinden, who is by way of being a good deal of a mixologist, had a lot of the older men interested in an operation, technique, etc., which he suggested to a few of his friends in private and not on the regular program.

Dr. B. F. Morgan of Clay Center has had himself photographed with a mighty fine bunch of trout caught during the late summer. The doctor really did help catch them, though a lady friend remarked that one of the fish looks suspiciously mummified—as if it might have come out of King Tut's tomb. The doctor explains this by the fact that there was no camera at the camp which was up near the top of Marble Top in the Medicine Bow country in Wyoming, and they had to wait until they were back in civilization before getting the picture. This "pack" trip up to a mountain lake was a sort of doctors' party, participated in by Drs. B. F. Morgan of Clay Center, W. F. Bowen of Topeka, and C. C. Stillman of Morganville, and a couple of laymen. These latter may have caught the bulk of the fish, but if they did it was all because they were light enough to go out on the log rafts into the deeper part of the lake where the big fish stayed. These rafts had a fashion and a well developed fashion of sinking when heavily loaded.

Dr. M. W. Woodhull, Cottonwood Falls, is in the hospital recovering from an automobile accident. His car overturned and he was dragged out through the windshield a couple of hours later, and brought to the hospital. It was found that he had a scalp wound, a fractured scapula and several fractures of the pelvis.

Dr. James H. Baldwin, a graduate of the University of Kansas School of Medicine, who practiced for a time at Donovan, is now physician in charge of the Medical Mission Hospital at Changli, China.

He recently reported a case before the North China Mission Conference which has added one more to the number of recoveries from extensive destruction of brain tissue by injury. This case was a Chinaman who had been confined in prison and who attempted suicide by driving an iron spike about the size of a lead pencil into his skull. After nine days he was taken to the Mission Hospital where Dr. Baldwin chiseled around the spike and withdrew it, four and a half inches of it had been driven into the skull. His recovery was complete and no mental disturbance was observed.

Kansas City Annual Fall Clinical Conference October 8-13, 1923

The Kansas City Annual Fall Clinical Conference sponsored by The Kansas City Clinical Society which was in Convention Hall, at Kansas City, Mo., October 8-13, 1923, was one of the biggest things medically, ever staged in Kansas City. It was biggest in point of attendance, in the character and caliber of the essayists, and in the manner with which it was so successfully staged.

The Kansas City Clinical Society and Dr. E. H. Skinner are to be congratulated on this most successful meet. Undoubtedly this same organization could successfully and ably handle the American Medical Association in the very near future. We are pleased to announce that the annual meeting of the Medical Association of the Southwest will be held in Kansas City next fall in connection with the Annual Fall Clinics of 1924.

A new and clever feature of this medical meet was the many sectional Round Table Luncheons for the different branches of medicine held every day. This brought kindred souls and interests together and made possible close heart to heart talks with the distinguished visitors.

Banquets of various Medical groups, graduates, and alumni were held and greatly enjoyed. Old friends who had not met in years were again brought together.

A large exhibit was displayed on the floor of Convention Hall consisting of scientific and commercial exhibits. This is always an educational feature of any convention.

The many hospitals of the city were the centers of interesting clinics put on by prominent local physicians and surgeons. These were well attended.

One outstanding general fact was apparent in the work of the convention—that in keeping with the trend of the times in all lines of thought and business, doctors are cleaning house in their profession.

Dr. Henry Dwight Chapin, president of the Children's Welfare Federation, New York City, gave the first paper, "The Management of the Undernourished Infant in Public and Private Practice."

Early in his talk he lamented Kansas City's infant mortality of 95. (That of the United States is 75.)

Doctor Chapin preached that the secret of reducing infant mortality was the care of the mother's breast, keeping the babies on the breast and keeping the breast functioning; that the fault of weaning the baby thus early was largely due to ignorance of the doctor in not attending to the drawing out of the nipples and emptying the breast. Dr. Chapin

stated that nearly every breast can be made to function. He also emphasized that many feed too low a fat content and criticized too strict adherence to caloric charts rather than centering one's attention on the growth and development of the child.

The baby incubator has been abandoned on account of the high death rate.

The human breast milk dairy has been established in New York City. The price is ten cents an ounce plus three cents for overhead. One mother furnished forty ounces for eleven months and her own baby, which was getting too much, fared better after she began doing this.

The milking is done by hand, grasping the breast with the flat thumb just at the upper edge of the areola and the flat of the fingers below and making a quick compression movement with an outward pull behind the nipple. The mothers learn to do this themselves.

Dr. J. W. Williams, Obstetrician-in-chief of Johns Hopkins Hospital, gave a startling address full of startling statements and broad accusations of medical faults. He thinks there is something wrong in American obstetrics, which is revealed by statistics which show that 22,000 mothers die of childbirth annually. If we allow an average of four babies to each mother the estimate would make one death in three women in childbirth. In New York City one woman in fourteen dies in childbirth. Here was a startling accusation: The death rate in country practice is decreased by half due, he thought to, (1) women in the country being left alone, and (2) city doctors (on the service) trying all sorts of things.

Williams emphasized that 7,000 deaths of women in childbirth in this country are unnecessary and can be prevented. Why don't we do it? This was his answer: (1) The doctors have not the proper education; (2) the public has not known that it could be done. He pointed out that, according to a questionnaire he sent out, doctors have more deaths in their cases than midwives, but he noted that midwives called doctors in to close their bad cases.

He stated that we are making obstetrics too much an art instead of a Science, for there are too many (1) Cesarean sections, (2) forceps used making repairs necessary, (3) versions. All are good when needed, but are not needed often.

The general practitioner stands ace high in this essayist's opinion—"He is a higher type than the average specialist."

Of puerperal infection, he said the less you do the better. Do not curette, put your pa-

tient in the sun, feed her, and say your prayers.

One-third of all women have retroflexion after childbirth; these should be sought out and corrected by a pessary in three weeks after childbirth.

Dr. Joel E. Goldthwait, of Boston, gave a paper on "The Chronic Patient, New Methods of Study Leading to Better Diagnosis and Treatment." He said the most common human complaint is backache; that the most common disease is arthritis. To show the average human spine is far from the average text book on anatomy and that the average diaphragm is a misplaced affair due to posture, resulting in poor health and all sorts of symptoms, the essayist showed many interesting x-ray pictures.

The challenge to the medical profession is the diagnosis of the chronic patient, and posture is everything. The public schools were scored for training the strong, healthy, athletic fellows to the great neglect of the hollow-chested, out-of-line fellows.

Dr. R. D. Carman gave a paper on "The Roentgenologic Diagnosis of Peptic Ulcer." Dr. Carman said that the radiologist should be able to diagnose ninety-five per cent of gastric ulcers.

Dr. Reuben Peterson gave a paper on "Use of Pneumoperitoneum and X-ray in the Diagnosis of Obstetric and Gynecological Conditions," with lantern slide illustrations.

Dr. Peter Bassoe, of Chicago, gave "Lethargic Encephalitis; Pathology, Clinical Manifestations and Sequelae." A large number of clinical cases (seven) were shown, together with lantern slides.

He said the pathology of encephalitis was the same for all brain structures. Of the prognosis, he said a case may improve and then go two or three years or more (we do not know as yet) and then develop symptoms like paralysis agitans. Encephalitis has complicated the diagnosis of nervous diseases.

Dr. John B. Deaver, Philadelphia, was introduced by Dr. Jabez N. Jackson, who, however, reversed the order and very cleverly introduced the audience, "the boys," to Dr. Deaver, who gave a paper, a lecture, a whole show replete with wit and wisdom, and which of itself was worth the price of admission. His subject was "Focal Infection in the Abdomen," or obscure localized foci of infection in the abdomen which may give rise to disease. "Here," he said, "we may find them as well as in the teeth and tonsils. Chronic Appendicitis is the most common surgical finding. I can make more diagnoses by touch than by the microscope. I often operate first and then call for the leucocyte count, fearing that if I had it before it might have kept me

from operating. Many doctors practice a lifetime and never acquire the sense of touch. Everything that occurs in the belly is due to appendicitis. * * * Where there is interstitial disease how can you wash the bugs out of the gall bladder by washing the bile out of the gall bladder? Putting too much faith in the duodenal bucket. * * * When you have epidemics of flu and tonsillitis you have more appendicitis. * * * The appendix is the intestinal tonsil and is responsible for other troubles—ulcer of stomach and duodenum. Have your gall bladder taken out and do not have diabetes. * * * 'You may linger but I'll get you bye and bye'—The Undertaker. * * * The order has been, Doctor, Surgeon, Undertaker. Dr. Deaver would make this: Surgeon, Doctor, Undertaker. He thinks the gastric, duodenal and jejunal ulcers are appendicitis in origin. Remove the appendix before the ulcer operation. * * * Correction of stasis is not a surgical but a medical case.

Dr. F. M. Pottenger, California, spoke on "Muscle Spasm and Degeneration in the Diagnosis of Pulmonary Tuberculosis." He emphasized the diagnostic importance of palpation over percussion. "You can learn to diagnose anything by palpation that you can by percussion," he said. * * * "Every man in medicine must know TB and be able to diagnose it. It can be done." "Also note muscle changes due to nerve innervation due to inflammation in the lungs." "TB is usually an old sleeping focus flared up, not a fresh start."

Dr. Lewellys F. Barker, of Johns Hopkins, gave a lecture on "Endocrine Diseases," together with a clinic held in the general session. There was the remarkable condition of having more material (endocrine cases) than could be handled at the time.

Dr. Barker said: "The clinical work in this field has preceded the laboratory. * * * We know more about the diagnosis than we do about the treatment. The diagnosis has run ahead. * * * The laboratory and the General Practitioner each think the other has buncum. We must be objective, not critical."

Dr. Walter Timme, New York City, had for his subject, "The Psychoneurotic Patient from an Endocrine Standpoint." Dr. Timme said that neuropsychiatry today occupies the keystone position in medicine. * * * Do not fail to get the history of these patients from birth. He pointed out the medical treatment and what can be done as our knowledge is being rapidly extended.

Dr. Joseph C. Beck, University of Illinois, College of Medicine, "The Pathological Changes in Nose, Throat and Ear Diseases as a Basis for Treatment." Dr. Beck noted

the lessening markedly of smashed and broken noses since the Volstead Act became effective, but thought that the automobile is taking the place of the fist. Pulling hairs from the nose is a great source of infection and may lead to sinus infection. "Cold is a sinus disease," he said, and decried the practice of spraying and douching the nose, washing away nature's protective secretions. He said only mild alkaline solutions would do. For "water in the ear" he recommended the tampon of ichthyol, only, to be left in the ear several days. He thought the American idea of removing the tonsils should be worked to the very end, but where masses and scar tissue are left, it results in more harm than before. The technic must be right and then remove the tonsil with the capsule. "The enemy to the cause is the man who tries to cure by treating an infected tonsil by the x-ray—you are taking great chances. The x-ray is all right for the lymphoid tonsil and should be used."

Dr. E. V. L. Brown, University of Illinois, College of Medicine, "Newer Ideas Concerning Glaucoma." Dr. Brown said that Glaucoma occurs in the old maid type of individual, the temperamental, repressed type. The Jews are subject to glaucoma. These cases should never be given morphine nor atropine. The lecturer reviewed at length the different theories and kinds of operations. "It is better to let the patient go blind on his own account in glaucoma rather than to operate and do anything to hasten it." He thought the tonometer better than the ophthalmoscope in these cases.

Dr. John H. Cunningham, Harvard University, gave "General Principles Involved in Prostatic Problems." He thought bladder drainage was the chief preoperative procedure. This is followed by renal depression, which is a danger period and must pass before prostatectomy, which may be months.

He thought prostatic obstruction was always present if there was residual urine, even though you could not palpate an enlarged prostate.

Of the suprapubic and perineal operations, he thought the former carried the higher mortality, the latter the best results with better average functional results. For cancer of prostate, remove by perineal route and use radium.

Dr. Jay F. Schamberg, University of Pennsylvania, Graduate School of Medicine, had for his subject, "The Cutaneous Manifestations of Syphilis and their Differentiation from other Skin Diseases." He thought that ten per cent of the population of the United States suffer from syphilis, and that it is less a skin disease than an organic disease. Since

the spirochete dies when it dries, it is very rare to infect by towels and razors, etc.

—R—

X-Ray in the Treatment of Impaired Hearing

In a paper read before the American Society of Electrotherapeutics, at Atlantic City, September 20, J. J. Richardson reported his experience with the use of x-ray in the cure of deafness. His attention was called to the improvement in hearing that occurred following the x-ray exposure of the head for the diagnosis of sinus affections. It was then used as a therapeutic measure with very flattering results. All pathologic conditions that might be regarded as etiologic factors are removed and the x-ray treatment is then used. We quote from Dr. Richardson's paper the description of his method of treatment:

"Convinced therefore that x-radiation affects nerve structures no less than it affects, photo-electrically, other structures, I began to use the x-ray treatment in my practice; and with a view to safe-guarding such patients as had first to come within the purview of my experiments, I used very mild doses, directing the radiation to the auditory center on each side. By a mild dose I mean a low voltage equivalent to about 4 inches of spark gap, or 50 kilovolts; and a low milliamperage, about 8 milliamperes. There is in all probability no need for any greater quantity of energy; for, as Lenard early proved, the photo-electric energy of the ejection of the corpuscle is wholly independent of the intensity of the energy causing the ejection.

At the very beginning, the results were gratifying. Regardless of the character of the initial pathology provoking the deafness, many patients, who had failed to respond to the use of other methods, found their hearing acumen positively improved under the new treatment. It was soon found that the radiation could be directed practically anywhere on the head in about the quantity described, with the same betterment of hearing, clinically; a fact which suggested that the therapeutic effects noted might not be depended exclusively upon the stimulation of the auditory nerve center; but that possibly the nerve itself, as well as the associated neural and non-neural tissues might be subject to the stimulating influences of the rays.

The method, then, consists of the gentle irradiation of the head from four angles, focussing, for the sake of convenience, upon the sella turcica. First, through the temporal region on the right, directing the central ray one inch in front and one inch above the external auditory meatus; second, over the oc-

capital protuberance, with the head inclined forward; third, the left temporal region in the same manner as the right; and, finally, through the anterior fontanelle, the head inclined backward. It has seemed to me to be important to keep the quantity of energy used constant and non-fluctuating, and that the best results are insured with the use of a carefully stabilized current."

—————R—————

The Reliability of Ergot Preparations

A variety of methods for assaying ergot have been employed in the past, some of them chemical, some physiological. The drug contains two or three active therapeutic principles, besides some which were at one time considered important but are now generally discredited. Among the latter the most conspicuous example is ergotinic or sclerotic acid.

Chemical assays of ergot, stoutly defended for a time as being more accurate than physiological methods, have been largely superseded by the latter, for it is now admitted that the darkening effect of a standard specimen upon the comb of the white Leghorn cock is not only a practical gauge of therapeutic value, but as accurate as any chemical test thus far devised. The cock's comb method was applied originally, on a commercial scale, by Parke, Davis & Co., whose advertisement in this issue of the Journal on the standardization of Ergot is one of a series directing professional attention to the progress of the standardization principle along physiologic lines.

—————R—————

Therapeutic Value of Transuterine Gas Inflation

The cases of relief from dysmenorrhea following gas inflation, Reuben Peterson and Roland S. Cron, Ann Arbor, Mich. (Journal A. M. A., Sept. 22, 1923), believe have been too few to warrant the drawing of any conclusions; but the relief has been so marked following the gas inflation that the authors are using it deliberately for the relief of this symptom alone. From hundreds of cases of transuterine gas inflation, they are convinced that the method is without danger, if certain precautions are taken in the selection of cases. It is a far simpler procedure than uterine dilation or the insertion of a uterine stem. The authors are using it constantly in the office as well as in the clinic.

American Association for Study and Cure of Cancer

On October 12th there was organized in the New York Academy of Medicine "The American Association for the Study and Cure of Cancer." There were over 60 enrolled from eighteen different states of the Union and some from outside countries, as charter members.

Dr. L. Duncan Bulkley was elected President; Dr. Curtis Frank Claassen of Brooklyn, Vice President; Dr. A. Hirst Appel, Colonel in the Medical Corps, U. S. (retired), Secretary and Treasurer; with an Executive Committee of five.

The next annual meeting will be held in Chicago, in May, during the meeting of the American Medical Association.

A. N. APPLE, Secretary-Treasurer.

PRACTICE FOR SALE: Established 32 years paying practice in coal mining town of about 2000 population with four smaller towns within four miles all gravel roads. Four room office in brick veneer building. Store room below 25x40. Office in these rooms 20 years. Will sell for quick turn all for \$1000. Good reasons given for selling. Come see me if you mean business. Dr. R. M. Markham, Scammon, Kansas.

Required by the Act of Congress of August 24, 1912, of the Journal of the Kansas Medical Society Published Monthly at Topeka, Kansas, for October 1, 1923.

State of Kansas, County of Shawnee, ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared W. E. McVey, who, having been duly sworn according to law, deposes and says that he is the editor of the Journal of the Kansas Medical Society and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 443, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Name of	Post Office Address
Publisher—W. E. McVey, under direction of the Council of the Kansas Medical SocietyTopeka, Kansas
Editor—W. E. McVeyTopeka, Kansas
Managing Editor—None.	
Business Manager—None.	

2. That the owners are: (Give names and addresses of individual owners, or, if a corporation, give its name and the names and addresses of stockholders owning or holding 1 per cent or more of the total amount of stock.)

Kansas Medical Society, E. D. Ebright, Wichita, Kansas, President; Dr. J. F. Hassig, Kansas City, Kansas, Secretary; Dr. Geo. M. Gray, Kansas City, Kansas, Treasurer.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other

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Recent Advances in the Treatment of Diabetes Mellitus

G. A. CHICKERING, M.D., Hutchinson

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

A new chapter has been opened concerning the treatment of diabetes mellitus. This is of especial interest since therapeutics, for the first time, seems to have a valid reason for having a part in the discussion of the subject. Heretofore, all progress in being able to care for the diabetic has come through the therapeutic assistant, dietetics. It at length had almost come to be accepted that the treatment of diabetes had only to do with the biochemical process dealing with protein, carbohydrate and fat and the resultant calories. But, with the bringing forward of iletin, the internal secretory product of the pancreas, a new hope has been awakened, looking toward a therapeutic agent as a prominent factor from this time on in adding years and enjoyment to the life of the diabetic. However, those best fitted to speak on the subject are so well guarded in putting forward their estimates, at this time, of the value of iletin treatment that the rest of us are left to that group at one side with little information but a great deal of interest.

Previous to 1914 the care of the diabetic was so unsatisfactory that to confirm a diagnosis of diabetes in a patient was to insure him of an early death unless he happened to belong to a type of diabetes occurring in the later decades of life when a more or less constant glycosuria seemed to have little influence on the welfare of the patient. It was considered scarcely worth while to undertake to treat diabetes in a child. In fact, Joslin in 1918 summarized the situation in these words: "At the beginning of 1914, the outlook for diabetic patients was depressing. The statistics of the Massachusetts General Hospital showed that in the preceding sixteen years for each 100 diabetics admitted, 28 were discharged dead, a record which duplicated the experience of the hospital between 1824 and 1898. Physicians dreaded to place their patients in an institution lest the treatment there prescribed prove more disastrous than that adopted by the patient's fancy. Surgeons dodged the diabetic, while the obstetrician was out and out afraid of diabetes and urged

pregnant women to have abortions. The neurologist, dermatologist and ophthalmologist would throw up their hands at complications within their respective spheres and exclaim, 'cure the diabetes and then we will help the patient.' It is hard to realize that these conditions prevailed only four brief years ago."

The Allen Starvation Treatment marked the starting point in scientific care of the diabetic and to Allen, in a large way, is due credit for the appreciation of the pathology of the morbid process as it is known today.

The benefit of this method of treatment is rather strikingly compared to that of the old regimen by Joslin in saying that five years after beginning treatment 7 out of 97 children under 10 years of age were alive. However, it is appreciated by all having to do with the care of diabetics that the general tendency is for the patient more and more to lose his tolerance for carbohydrates. When tolerance has reached a low point the resourcefulness of the physician is taxed to the utmost.

Because of the difficulties presented in the care of the patient in this condition, Newburgh and Marsh of the University of Michigan brought forward rather an astonishing modification in the treatment of diabetes. Heretofore fat was considered a source of great danger in the diet of the diabetic and particularly so in the severe type. These investigators came forward with the dictum that in case the patient can burn any carbohydrate at all, and all cases can be so adjusted as to use some carbohydrate, the furnishing of heat and energy may be obtained from fat similarly as it is in the case of carbohydrate food. The clinical demonstration of this theory when applied to the dietary of a patient is quite striking. An emaciated patient with a severe acidosis and impending coma is dieted in such a way that glucose burning ability is restored. Treating him without reference to high fat dietary it was found that the most food that he could take without showing a glycosuria would yield but 953 calories. The ultimate outcome with this procedure could only be bad and there was nothing left but that the patient still further draw on his body protein and continue to emaciate.

In contradistinction to the type of diet as here tried, it was found that by pushing the

fats all that his tolerance would permit the patient could receive food sufficient to yield 2000 calories, and, thus, obtain an adequate diet. However, a hair breadth escape from a starvation to a living diet is not without its accompanying danger, that from acidosis. To this danger two sources contribute, (1) the imperfect metabolism of fats whereby ketogenic, or fatty acid bodies are formed when fat metabolism is not completed to the formation of the end products, CO_2 and H_2O ; (2) the formation of ketone bodies from the imperfect breaking down of the protein molecule.

The danger from acidosis and coma from fat in the diet of the diabetic has been recognized a great deal longer than the limits of its safe usage have been understood. The high fat and low protein and carbohydrate diet of Newburgh and Marsh has been given a mathematical expression by Woodyatt of the Sprague Memorial Institute of Chicago in an article entitled "Objects and Methods of Diet Adjustment in Diabetes," in the August, 1921, number of Archives of Internal Medicine.

Here, recalling that fat burns in the fire of carbohydrate kindling, he points out the means by which, having determined that the tolerance of a patient for carbohydrate is a certain amount, it is possible to estimate what is the greatest amount of fat which can be completely metabolized by the body for purposes of heat and energy production. He points out that, although glucose is the form in which all carbohydrate food is used by the body, carbohydrate food is not the only source of glucose. The metabolism of the protein molecule furnishes a glucose factor, likewise that of fat furnishes a glucose equivalent. When the protein molecule is metabolized .58 results in the formation of glucose. When fat is metabolized .10 results in the formation of a glucose equivalent. So, the carbohydrate tolerance of a patient is the amount of carbohydrate without glycosuria which may be ingested, taking into account the carbohydrate of the food taken as such and adding to this the glucose element derived from protein metabolism amounting to .58 of the protein, plus the carbohydrate equivalent from fat amounting to .10 of the ingested fat.

If, in considering carbohydrate tolerance, attention is paid both to carbohydrate ingested as carbohydrate the contribution from protein and fat elements of food is likely to result in a glycosuria.

For the reason that the glucose element of food cannot be considered as being derived from but carbohydrate, it is necessary to determine the relationship which is borne to the other food elements, protein and fat.

As regards protein, it may be said that as a result of metabolic processes .58 of protein food goes to form glucose. The other .42, after being broken up into amino acids is largely used for replacing the wear and tear of tissue cells. If this .42 is so small in amount that wear and tear cannot be supplied from the food the deficiency must then be made up from body cells and emaciation follows.

As regards fat, .10 of the fat of the food is metabolized into a glucose equivalent and the .90 is available to be further oxidized for purposes of heat and energy, provided that enough carbohydrate is being used by the body to insure its complete oxidation into carbon dioxide and water. Otherwise, ketogenic bodies are produced.

In order that fat may be substituted for carbohydrate for the production of heat and energy, it is necessary that the ratio of fat to the carbohydrate which is actually being used in the body must not be greater than 1.5:1. If this ratio is exceeded acetone bodies are formed as an evidence that fat is smoking.

In cases in which it is hard to have the patient obtain a sufficient caloric yielding diet the additional calories obtained from each additional gram of fat metabolized are considerable since the metabolism of 1 gram of carbohydrate yields 4 calories and that of 1 gram of fat 9 calories.

So, a properly regulated dietary calls for a sufficient quantity of protein that wear and tear of body tissue cells may be replaced. Excessive quantity is undesirable. Carbohydrate food should be used to the extent to which the tolerance for carbohydrate as indicated by the sum total of the three contributing factors permits. Finally, depending upon the necessity to obtain additional heat and energy, fat may be used insofar as carbohydrates in the body are insuring the complete combustion of the fat.

Woodyatt has done much toward the application of a theoretical dietary in practical terms. A diabetic whose carbohydrate tolerance is not easily harmed does not try to the utmost the ingenuity of his physician as does one whose urine it is difficult to keep sugar free. Probably no mathematical formula will ever be compiled, the following of which will lead to the successful treatment of all diabetics. However, application of the chemistry of metabolism clinically to the problem of the dietary does help. (Arch.)

It is in connection with the best understanding of the dietary requirements of the individual patient that pancreatic extract may be most helpfully used. By this is meant that in order to help the patient it is necessary to know how much the patient can help himself. The amount of sugar in the urine at any

one time does not necessarily indicate anything concerning the ultimate ability of the patient to burn glucose, but the amount of sugar excreted during a known time when the patient is on a constant diet of known value does tell something. If it can be determined what his need is then it is known where treatment must begin. A diabetic following the dictates of his own appetite or when he is improperly treated shows a glycosuria which is probably out of all proportion to his actual ability to burn carbohydrate when he is under proper treatment.

Present knowledge of the hypodermic use of pancreatic extract would indicate that, from a therapeutic and economic standpoint, it should be used in cases in which, under proper dietary regulations, the carbohydrate tolerance is low. The patient who can utilize his food to obtain as much as 2000 calories and have a satisfactory blood chemistry probably had best be content with present conditions.

Pancreatic extract, the trade name being *iletin*, as it is put out by Eli Lilly & Co., of Indianapolis, is an aqueous extract prepared from the adult pancreas of animals. It contains the internal secretions elaborated by the Islands of Langerhans. When kept cool it is fairly stable and will keep for at least seven weeks. Due to the preservative *tricresol*, it is quite painful for a few minutes when injected subcutaneously. It produces falling of the blood sugar content due to hydrolysis of the glucose of blood into glycogen in the liver and muscles. A fall of the blood sugar content begins in a half hour after each injection and continues, reaching its maximum effect in four hours' time.

Indicating that cellular oxidation is increased under the influence of pancreatic extract, it is found (1) the respiratory quotient is raised, (2) acetone bodies in lessening amount are formed in the urine.

Pancreatic extract or *iletin* is standardized according to the "unit" and put out in two strengths, one being twice as potent as the other. A unit is that amount of extract which induces the lowering of the blood sugar content of the rabbit from normal, which is about .137 to .045 per cent, which usually induces convulsions. One cubic centimeter of the weaker strength contains 5 units while that of the stronger contains 10 units.

In preparing to use pancreatic extract in treating a patient, it is best to know all that one can concerning the ability of the patient to utilize food. The carbohydrate tolerance, at least, is fundamental. Along with this frequent blood sugar estimations should be made, in order that, at the time of instituting treatment, it will be known what is the lower and

upper level of blood sugar findings, that of a fasting condition and after the ingestion of the regular meal. The former is carried out by taking a specimen of blood for blood sugar determinations in the morning before the patient has eaten. In this way 12-14 hours has elapsed since the ingestion of food and the blood sugar percentage represents a low level. The latter is obtained by taking the blood sugar estimation four hours after the ingestion of the mid-day meal. The blood sugar level is probably at its height at this time of the day.

The degree in which the patient's blood sugar percentage is above normal, that is, above .08 to .12 per cent, helps in estimating what the amount of the initial dose of pancreatic extract should be. To give a dose that will cause the patient's blood sugar concentration to drop below normal is a dangerous thing and necessitates the immediate provision of carbohydrate that is readily assimilated, such as orange juice or glucose given intravenously.

For this reason, when treatment is first begun blood sugar determination should be frequently made. Unless the blood sugar percentage is quite high the initial dose of pancreatic extract should probably be but a very few units. It is given fifteen minutes to a half hour before meals. When a blood sugar content about normal has been obtained through the selection of a proper dosage the carbohydrate of the food can be increased a few grams at intervals of 2-3 days until sugar appears in the urine. The dose of pancreatic extract is then increased. In this way can be built up gradually a dietary that is adequate in caloric content.

It is probably well to be reminded in thinking of pancreatic extract as a cure for diabetes that the word "cure," when used in a therapeutic sense, has its derivation from the Latin verb, *curo*, meaning: To take care of. In truth, treating diabetes does involve a taking care of every day.

As this method of treatment becomes further established much more will be known about it than is known today. One question of interest is "When followed during a long period of time, what influence has treatment on the inherent secretory function of the Islands of Langerhans at the time treatment was instituted? Is it increased, decreased, or influenced not at all?"

—R—

Regular medical examinations, suggested by health authorities in order to keep well by detecting the early deviation from physical well-being is liable to invite introspection in individuals and magnify functional deviation and bring on hypochondriasis.

Basal Cell Carcinoma

HARRY E. BLASDEL, M.D., Hutchinson

Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

Because of the great trend today toward preventive medicine, its undoubted results and benefits, we wish to emphasize a small part of this most important branch of medical science.

Nowhere is the field more fruitful than in the prevention of malignancies. Because of the very nature of cancer, its early recognition and prompt medical attention is absolutely necessary if we are to combat this disease with any hope of success. If for no other reason, we, as preventive medicine men, are responsible for the development of the disease. But once the disease is established its ravages are so severe, and its consequences so terrible, no man cares to feel he has played a part in lulling the patient's mind to rest, and thereby denying the unfortunate victim the chance of cure he deserved.

Because of the high mortality and loathsomeness of the disease, the general practitioner has been chary of treating it. Consequently a great many cases have fallen to the charlatan and quack. Over the entire United States are quack institutions holding out hope to the hopeless, their operators growing wealthy off of the credulity of the public. And when the end comes the relatives and friends are comforted by the knowledge of deaths occurring with ethical physicians, who have either seen the disease too late, or did not understand its treatment. Because of the boldness of the quacks, their promiscuous diagnoses and readily promised cures, the medical profession is additionally handicapped. What physician of more than moderate ability sees a lesion, diagnoses it cancer and can immediately offer a good prognosis? Hence as a medical profession our finesse of diagnosis and skill in surgery is directly challenged. This only means we have to be more careful and painstaking in our examinations, more thorough in our operative technic, and far wiser than was required a few years ago.

So much for cancer in general. Of all cancers the basal cell carcinoma is probably the most benign, and offers the greatest chance of permanent cure. Yet its early recognition and correct treatment will save a great many lives and prevent a great many more unsightly deformities. In none of the other malignancies is the prognosis so good, the treatment so satisfactory, and the results so sure as in basal cell carcinoma. Yet one is surprised on visiting skin clinics and cancer hospitals, at the number of well advanced and late cases of this disease presenting themselves for treatment, who have for years been under the observation of various physicians

and have had divers methods of therapy with no regression of their disease. This is due to lack of knowledge or consideration by the physician for the lesion he is treating. Far too many times these basal cell carcinoma are tampered with, until they have assumed alarming proportions and then are sent to the larger hospitals in the hope of x-ray, radium or some other cure. For the benefit of these cases this paper was prepared. Not with the idea of presenting any original observations or mode of therapy, but with the sole purpose of emphasizing once again our present knowledge of basal cell carcinoma, its pathology, diagnosis, and a few words on treatment as we have observed it.

The rodent or Jacobean ulcer was first described by Jacob of Dublin in 1827. Hutchinson in 1860 contributed a clinical report on rodent ulcer. From that time on the literature has contained numerous references to the disease. Some of the old text books classify rodent ulcer as lupus exedens and consider it a distinct disease from cancer. Brodie and Padget likewise took this stand.

Since workers in different fields have failed to correlate the pathology with the clinical aspect of the disease, there has been a variance of opinion, whether rodent ulcer is a separate disease or only a clinical variety of carcinoma. Whether we find with Ribbert¹ subscribed to by Sangster² and Walker³, basal cell carcinoma springing from hair follicles and sebaceous glands, or are inclined with Bormann⁴, it often has no connection at first with the surface epithelium and is true corium carcinoma, we certainly have to take into consideration the work of Krompecker⁵, who, in 1900 clarified the atmosphere a great deal and seemed to prove these tumors as derived from the basal cell layers. This classification has been generally accepted, I believe, as a good working one. Rodent ulcer and basal cell carcinoma will be considered one and the same as distinguished from the older classification included under the general term epithelioma. Likewise we will accept Krompecker's origin of this carcinoma and assume it to spring from the basal cell layers of the epidermis. Fordyce⁶ in 1910 came to this same conclusion.

The new growth commencing at the site of a seborrheic patch or senile keratosis is composed of cells smaller and containing deeper staining nuclei than those in the surrounding basement layer. They have lost their regular formation and soon bulge into the corium. At times the down growing strands are numerous and varied, while other specimens show one single downward proliferation. However, the growth is very slow and not until the disease has progressed for

considerable time does the underlying structures become involved. A summary of the pathology teaches us we are dealing with a purely local affair, which if removed in its entirety will have no tendency to return.

The etiology of basal cell carcinoma like all the other forms of cancer is still in doubt. There can be no question as to the influence of light on these growths, since their most frequent site is on exposed portions of the body, especially the hands and face. Men are more frequently attacked than women, probably due to greater exposure to light and external influences. The sailor's skin is a good example of this. Trauma certainly plays a role. Nearly all patients can give a definite history of trauma, which may be single or repeated. There can be no question that some skins are predisposed to the formation of malignancies. Blondes are more frequently attacked than brunettes. The observance of these growths in the colored race is rare. In this way only, I believe, can we speak of the role of heredity in cancer. Surely there is a cancer diathesis which can be traced in families. The age of the individual is certainly a factor. The skin always presents evidence of senility in these cases. Why one individual should develop this disease of the skin, and another under the same conditions, escape, leads us to assuming the existence of some internal factor, which has as yet been undiscovered. Whether this internal factor is in the cells of the skin itself or in the metabolism of the organism can only be a matter of conjecture at the present time. The theory of microorganisms being responsible, need only be mentioned. There is no evidence at hand to warrant such an assumption.

Therefore at the present time our weapon of prophylaxis does not lie in the etiology but must be concerned with the disease before its inception or just afterward. Hence our efforts at prevention must be aimed at the precancerous affections and the early lesions, which present themselves for observation. Diagnosis is the important thing if we are going to prevent the *noli me tangere* of the past.

Clinically these neoplasms present a somewhat varied appearance, depending on what stage they are observed, and also their mode of onset and growth. The predilection of these lesions for the face and exposed portions of the body is well known. A tentative criterion can be drawn by saying: all carcinomas above the mouth line can be considered to be of the basal cell type. This is a working basis only and one should exercise caution within this area in ruling out the prickle or squamous cell type. They may arise from moles, old scars, subject to daily trauma, seborrheic

keratosis or senile keratosis. While they do not occur at the junction of epithelial transition like squamous cell carcinoma, still they are frequently found near such areas as eyelids, nares and mouth. First appearing as a small crust, which reforms on removal, the lesion excites very little uneasiness in the mind of the patient. A papule is next observed which may remain in this stage a number of years. The constant crusting over of this papule is characteristic. When the crust is removed several little bleeding points may be discovered underneath. Spreading peripherally a small ulcer is finally formed which has a shallow base with hard rolled edges. It is this button like edge which furnishes the most positive diagnosis of basal cell carcinoma. The slowness of growth, non-involvement of lymphatics, tendency toward early ulceration, rather than great proliferation, should distinguish it from the squamous cell variety.

Syphilis of course can simulate these growths. Syphilitic lesions are prone to have a greater discharge and this discharge of a purulent nature. The age of the patient together with repeated negative Wassermanns should help rule out this disease.

Lupus vulgaris could be confused with basal cell carcinoma. However, the surrounding tissue involvement would speak for lupus vulgaris. The usual single lesion with more actual tissue destruction and presence of pearly border should identify the rodent ulcer. Finally, if the diagnosis is still in doubt, a small portion can be excised for microscopical examination.

As to treatment: various agencies have been used and all with varying degrees of success depending on the skill of the individual operator. And also in what particular field the physician is working who treats the patient. A review of the different methods of treatment reveals the fact that dermatologists and surgeons have usually not agreed as to what was the most effective method. Bloodgood⁷ in 1910 very vigorously advocated scalpel or cautery removal for these growths, while Rusey⁸ at the same time cautions against their use and holds the use of caustics, x-ray and radium much more effective and safer. At the present time we are not far removed from these opinions expressed thirteen years ago. The plaster, cautery, soldering iron, scalpel, carbon dioxide snow, telotherm, x-ray, and radium have all been used with good success. Recurrences are very infrequent with any of these agencies if the entire growth is destroyed. Other things being equal, the method of choice would be the one in which that particular physician is the most proficient. Since these agencies destroy the skin there must be

scarring produced. Efforts to reduce this resulting scar have led to the greater use of x-ray and radium. More elastic tissue has been found to be present in the resulting scar, after the use of x-ray or radium, than can be demonstrated in the scars following other methods of removal. The use of radium particularly is enjoying a widespread popularity at the present time in the removal of these growths. Without wishing to detract one bit from the value of this agent it seems well to sound a word of warning. Since larger quantities of radium have become available, commercial houses have taken it up and have representatives in the field, calling on physicians, extolling the value of radium in the treatment of malignancies. Consequently physicians are handling it with inadequate training and in inadequate amounts. More harm can be caused by under dosage from radium, than by failing to remove all the growth with a scalpel. The outlying cancer cells which have not been killed or inhibited, are directly stimulated by radium resulting frequently in rapid return and increase in the growth of the lesion. To estimate the dosage of x-ray or radium, required to destroy every carcinoma cell in a given area, is not an easy matter. True one may repeat the dosage if the first treatment is not successful, but whether the lesion is treated in fractional doses, or with one or two cantery doses, the fact remains, every carcinoma cell must be destroyed or the growth returns and possibly with reinforced vigor. McKee⁹ holds the prognosis of basal cell carcinoma is materially affected by previous fractional treatment, with either the x-ray or radium, and believes if the skin about the lesion shows previous x-ray treatment some other method should be employed. He further advocates surgery in extensive deep seated growths with marked induration.

Another consideration which must be reckoned with, is the fact, that in all cases treated with the x-ray or radium no pathological specimens are obtained, and it is conceivable, in the volume of lesions treated, some could be pronounced basal cell carcinoma with resulting cures, which did not belong to the carcinoma group at all.

With the scalpel or electric cautery under novocain the lesion is removed in its entirety. Very little pain is experienced in the hands of the average operator. The advantage of this method is that the lesion is removed in one sitting, there is no question of carcinoma cells left in healthy tissue, and the patient can return immediately to his family physician for after cure. Also the operator has the specimen which can be examined microscopically and its exact nature and extent determined. The point I wish to make is: that even with

the advent of complicated x-ray machines, and the more expensive radium, the treatment of basal cell carcinoma need not be taken out of the hands of the general practitioner. if he understands thoroughly the lesion he is treating and cares to take a little time in securing good plastic results. With the scalpel, tumors may be removed and the resulting scar thrown in a skin cleavage line which will be hardly noticeable. With the electric cautery, the scarring can be kept down to a minimum by placing one or two Reverdin grafts in the center of the granulations, when they reach the skin level. This holds down the central granulations until the new skin comes in from the periphery and does away with the old keloid like scar, which frequently followed such procedures.

I have here the slides of a few cases treated in The Barnard Free Skin and Cancer Hospital, at St. Louis, which it was my good fortune to observe while serving an internship there. These cases were selected with the idea of presenting a few of the different methods of treatment and their results:

The first is that of a basal cell carcinoma involving the lower eyelid of the right eye, of three years duration. Because of the situation of the lesion radium was deemed the best agent in this case. The patient received 75 milligrams for six hours, screened with .5 mm. German silver and .1 mm. rubber. Seventy days later the following picture was taken showing the good result obtained. At that time, however, the radium reaction had not entirely subsided and there still was present some erythema over the lesion site. This case demonstrates very nicely the value of radium. Its use in the treatment of lesions involving the eyelids is very desirable. This is because of its ease of application and the difficulties of a plastic operation following the scalpel to avoid getting an ectropion.

The second case is also one treated with radium. This patient gave a history of the lesion appearing twenty-five years ago. From its present size it must have progressed very slowly. Six years before appearing in the clinic a physician was consulted who burned the lesion, which returned promptly, another physician removed it with a scalpel one year later, again return was soon noted with slow increase in size until time of admission. Twelve hundred milligram hours of radium were applied screened with .5 mm. German silver and .1 mm. rubber. Eighty-nine days of radium reaction followed after which the second photograph was taken. At the time of this second picture some radium reaction was still present. One wonders if the ectropion present would have been any more marked had a scalpel excision been done fol-

lowed by an immediate plastic. This case shows that recurrences are likely to follow when thorough removal is not accomplished. Also it fails to demonstrate the increased vigor which is supposed to attend recurrences following removal with scalpel or cautery. One can only speculate on how rapid the growth would have been had it been a recurrence following x-ray or radium.

The third case is that of two lesions, one on the nose and one on the cheek. The lesion on the nose was removed under .5 per cent novocain with the electric cautery, while the one on the cheek was excised with the scalpel. The microscopical diagnosis of both lesions was basal cell carcinoma. The placing of the central Reverdin graft was done in this case on the nose lesion. Twenty-eight days elapsed after removal of the lesions and the taking of the following photograph:

The next slide shows the technic followed in removing lesions with the electric cautery and placing the Reverdin graft. Figure 1 represents the lesion. Figure 2 the approximate breadth given the lesion with the cautery. Figure 3 shows the size of the removed skin. Fig. 1 of the next slide gives an idea of how the granulations appear in cross section about two or three weeks later. Fig. 2 shows how the granulations are clipped to the skin level and a small graft placed in the center. Fig. 3 shows the central graft with the new skin growing in from the periphery of the lesion. If the skin is allowed to grow altogether from the periphery the keloid like formation in the center results.

The next case is that of a woman treated with radium, 50 milligrams for five hours screened with .5 mm. German silver and .1 mm. rubber. Her reaction lasted sixty-eight days with final result as shown. In this case a scalpel excision would surely have given as good a result because it could have fallen in the naso labial fold. Surely her time of treatment would have been materially lessened.

The next case is of only three months duration. This patient consulted a physician before admission to the clinic, who treated the lesion several times by applying castor oil. This lesion was excised with the cautery with a complete healing in 72 days, when the following photograph was taken:

The last case is that of a patient aged 83 whose lesion is of only three years duration. This case contrasts strongly with the others in its rapidity of growth. Usually in one so old this is not the case. The possibility of a difference in the biological reaction of the tissues invaded in different individuals must be considered in these cases. The entire mass together with the eye was removed with sold-

ering irons and the denuded area left open to granulate in. After the granulations had reached the skin level, Reverdin grafts were placed over them, 80 per cent of these growing. In this connection it is interesting to note the regenerative power of the skin in which there must have been considerable senility present. The following slide shows the patient four months later as she appeared at time of discharge. She was heard from six months later and no recurrence had taken place. This was to be hoped for since the bony parts of the orbit or face were not involved.

CONCLUSIONS

Early recognition is of prime importance in basal cell carcinoma as well as in other forms.

Complete removal of local lesion is all that is required to effect a permanent cure.

No one method can be relied on to deal with all these lesions.

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Tumors of the Bladder.

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Read at Annual Meeting of the Kansas Medical Society, Kansas City, May 2, 1923.

In taking up this subject of tumor of the bladder, we are doing so not so much from the standpoint of your interest in the pathology, although we shall go over it hurriedly as it must be given for our mortality comparison, as to forcefully recall to you the sometimes over-looked possibility that a great danger may lie in the bladder and that bladder symptoms do not necessarily mean simple cystitis, bladder stone, or even enlarged prostate. Also to call to mind a few facts and figures relating to malignancy of the bladder.

Following the charts of mortality and recurrence I am in belief with those urologists who do not rely solely on the cystoscope or the microscope in dealing with tumors of the bladder unless it is readily proven malignant. Edward Keyes, Jr. states that unless a tumor shows evidence of a ready response to the

high frequency it is to be regarded as malignant and handled accordingly. Dr. Hugh Cabot says "I do not know whether or not it is equally true in other fields but it seems to me that in urology the pathologist has been a source of trouble for years. We find in clinical experience that patients do not die of malignant tumors sometimes and do die of non malignant tumors." Still quoting, "While we may be interested in knowing what the pathologists' opinions are, as shown by the microscope, the thing that the patient is interested in, is what is going to happen to him and that is not discernible from the report of the pathologists."

I believe there is no field today in medicine that is handled by the doctors, with the exception of the urologists, with so little attention and with so great a tendency to treat symptoms rather than making a diagnosis as are diseases of the kidney and bladder. There is probably no field in urology that is receiving more attention today than bladder tumors. The operative field is daily increasing. The instruments, with the advent of the operating cystoscope, are constantly becoming more efficient, the technique better and naturally the end results are better but still any and all of these are unsatisfactory if the crux of the problem is missed. "An early diagnosis." Again the problem rests, where it has always rested, upon the shoulders of the general practitioner, who sees the patient when his symptoms first begin to be clinically manifest.

We know that the Oudin or D'Arsonval high frequency is the method of choice for benign growths and that tumors can be cleared up by its employment without necessity of operating. The malignant papilloma responds to fulguration combined with radium; that in the less favorable locations as the bladder neck, cystotomy, intensive fulgurations as outlined by Kolisher followed by radium, will handle the condition. We know the possibility of excision of parts of the bladder, of ureterostomy or nephrostomy and cystectomy, but these last mentioned are the unnecessary and usually the unavailing procedures and our plea is that an early diagnosis be made possible and these procedures made unnecessary. This can only be done by every bladder with symptoms being diagnosed instead of treated.

To diagnose bladder tumor from only the patient's history of course is impossible or, more correctly, improbable. There is one symptom that if the history is gone into from the first manifestations will be found to be nearly constant and that is a painless hematuria. The bleeding may be from a few drops to a considerable quantity, may be at the be-

ginning or following the ending of urination, constantly, intermittently, with days, weeks, months or years intervening. The urine may or may not be mixed with blood or contain clots. The amount of blood holds no relationship to the probable size of the tumor. A small tumor at times shows quantities of blood and vice-versa.

As the condition has progressed and the retained blood clots have become infected we may find the classical symptoms of acute trigonitis, also a retained blood clot in its attempted passage will at times give us the pain in the penis so common to stone, this is also the case when the tumor lies in or near the sphincter and the growth overlies or presses on the ureteral opening. With the tumor lying in or near a ureteral opening we will, when it is an infiltrating growth, have a hydronephrosis followed by a pyonephrosis and all of the symptoms accompanying these. Returning to the original statement of the symptoms, Fenwick, Scholl, and others find that from seventy-five to eighty-five per cent of papilloma have for their first symptom a painless hematuria that is not influenced by either motion or rest.

Any bladder symptom that is sufficiently severe to call for a physician's aid demands a diagnosis. This is particularly so in hematuria and it should always be considered as a forerunner of a possibly serious disease.

The first step in diagnosis can be done by an x-ray if a cystoscope is not available, with aid of an air cystogram followed by filling the bladder with a fifteen per cent solution of sodium bromide and a second picture. This should give a very good idea of the size, shape, and location of the tumor. Bimanual palpation in the extensive infiltrating growths will aid in diagnosis.

The cystoscope is highly valuable in the diagnosis, treatment, and following of the case for prognosis. In the extensive hematuria cases the use of adrenalin solution into the bladder or horse serum previous to the examination will allow a clear field. In the less extensive bleeding cases the blood can be overcome by continuous irrigation. If the case is a malignancy complicated with a severe cystitis and the manipulation, no matter how gentle, is not well stood, the author has found that an eighth of morphine and a four-hundredth of scopolamin, given two hours before and repeated one hour before cystoscopy, allows for a comfortable and profitable sitting that otherwise could not be obtained without a general anesthetic.

The cystoscope provides not only a sure means of diagnosis of the presence of tumor but we can see the extent and exact location.

Albert J. Scholl in his review of two-hun-

dred and five cases gives fifty-eight on the lateral wall, forty-six on the base and lateral wall involving ureter, and thirty-seven on the base and lateral wall, the balance being divided in other places in the bladder or in combinations.

The malignancy if gotten late may cover a greater part of the bladder or there may be several nodular incrustations and occasionally more than one fern like growth.

After the diagnosis of tumor is made, as has been previously stated, a section should be taken through the operating sheath by the use of the Young rongeur or Lewis forceps, and histological examination made, then unless it is proven malignant the fulguration response should be watched. Geraghty and Corbus believe all papillomas, after fulguration has eliminated the growth, should have a follow up of radium, and state that in cases of slow response to fulguration a small amount of radium will cause an immediate clearing up.

Histology and Mortality. The histology of bladder tumor may be divided into two groups—Papillomas and Epithelomas. The benign papillomas respond readily to excision or fulguration but the percentage of this type is very low. According to the table arranged by Scholl in a series of two-hundred and sixty cases there were only three or less than one per cent. Of the malignant papilloma 36.6 per cent died eleven months after operation, 43.4 per cent were alive three months or more after operation. Of the solid carcinoma, 71.2 per cent died about seven and one-half months after operation and 28.8 per cent are alive two years or more after operation.

Of Scholl's two-hundred and sixty-two cases two-hundred and sixteen were operable. Of these one-hundred and four or 48.2 per cent were still alive, at time of report, three years or more after an operation for the removal of the whole tumor and that one-hundred and twelve or 51.8 per cent were dead eight months after the same operation.

From these figures we can see that the mortality depends to a large extent upon whether the tumor is malignant and also how great the malignancy.

The solid tumors are of two types: The extensive papillary epithelioma and the low infiltrating carcinoma. The more rare types are the squamous celled carcinoma, which is usually fatal. Adenoma and adeno-carcinoma are very prone to recurrence. Angiomata have a tendency to extend into other tissues surrounding. Myoma is usually benign and fibrous but may be malignant; found in children. Myxoma is usually found in children, soft, gelatinous, spreads readily, recurs

easily unless completely destroyed. Sarcoma is especially rare, malignant, sessile, metastasizes and recurs.

Mortality as to location. Tumors of the base of the bladder especially the trigone show a high mortality. This is partially due to the difficulty of eradicating from this region.

Ureteral involvement does not appreciably increase either early or late mortality. Sometimes the more difficult necessary transplantation of the ureter may influence toward death.

Tumors of the dome on account of the accessibility and freedom from involvement of neighboring structures give a low mortality.

Mortality in children is exceedingly high because the connective tissue types of tumors become sarcomatous. In early adult life up to fifty the mortality is low.

CONCLUSIONS

1. Bladder tumors have a small percentage of the benign type.
2. One should be hesitant to diagnose a benign tumor without several intermittent post operative examinations over a period of months.
3. Malignant tumors of all types have fatal endings in a great percentage of cases.
4. All bladder conditions requiring treatment demand a complete diagnosis.

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Epidemic Encephalitis*

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Some 2000 papers have been written on this disease since 1918. There are 1243 references in the official British report of 1922. I shall refrain from reading a paper to you. My desire is to demonstrate by means of lantern slides and patients some of the salient features of the pathology of the acute state and the symptomatology of the later stages.

Let me first sum up the main points in the pathology, positive and negative, which, if always at your command, will greatly help you in your clinical problems:

1. The insignificance of the meningeal in-

*Remarks in connection with Presentation of Patients and Lantern Slides before The Kansas City Annual Fall Clinical Conference, October 10, 1923.

flammation—hence meningeal symptoms are in the background.

2. The slight amount of destruction of nerve cells and nerve fibers—hence not much real paralysis and almost never loss of sensation and atrophy of muscle.

3. The unimportance of thrombosis and hemorrhage, another reason for rarity of gross paralysis and anesthesia.

4. The almost constant involvement of parts of the brain usually spared by other common acute brain diseases. These parts are the basal ganglia and midbrain.

The chief clinical features to bear in mind are, including some of those just mentioned:

1. The rarity of such common brain symptoms as extensive paralysis of the extremities, anesthesia, convulsions, aphasia.

2. Stiffness of the neck and limbs is common, but it is nothing like as painful as that in meningitis and more like that seen in paralysis agitans and katatonia, yielding to persistent pulling without hurting the patient very much.

3. The prominence of somnolence while actual coma is uncommon.

4. The prominence of symptoms corresponding to the constant lesions in the basal ganglia and midbrain; namely plastic stiffness and slowness of movement, often with tremor, but without either spasticity, increased reflexes or clonus such as we see in coarser brain lesions which involve the chief motor tracts severely. Prominence of transient and incomplete disturbance of function of the upper motor cranial nerves, especially those governing movements of the eyes and jaws and facial expression.

5. The great variability brought about by a constant interplay between rigidity and tremor, confirming Hughling Jackson's dictum on the close relationship of the two: "Rigidity is tremor run together and tremor is rigidity drawn out too thin."

6. The frequency of salivation, of disorders of respiratory rhythm, and curious movements and attitudes otherwise usually seen in psychoneurotics and the insane.

7. The tendency to variation in the grouping of symptoms in different epidemics and different localities.

8. The rarity, almost non-existence of a second attack due to reinfection.

9. The frequency of long latency, giving false assurance of complete recovery from the acute attack, and reappearance later of progressive symptoms, usually resembling those of paralysis agitans; namely: rigidity with slowness of movement, tremor, and loss of normal automatic associated movements such as the normal swinging of the arms in walking and the normal winking of the eyes and

play of the facial muscles which give expression to the face.

10. The fact that severe Parkinsonian states often develop two or three years after the acute attack which may have been merely of ambulatory type and so mild as to have escaped serious notice at the time. In this way we are often led to make a retrospective diagnosis of acute encephalitis just as the development of tabes and general paresis leads to a diagnosis of preceding syphilis.

11. There is nothing very characteristic about the acute stage. The onset may be sudden or gradual, the duration long or short. There may be much, little, or no fever. There is no characteristic blood picture. Pain may be present or absent. The spinal fluid is always clear and may be entirely normal but it usually shows some change: Moderate increase in cells and globulin and quite constantly increase in sugar; the gold curve usually resembles that of syphilis.

Etiology. The microbic cause of the disease remains unknown as sufficient proof has not been offered to lead us to accept any of the rival claims brought out by certain groups of bacteriologists. There is the polymorphous streptococcus brought out in Austria by Von Wiesner and in this country by Rosenow of the Mayo Clinic. Then there are the globoid bodies discovered by Strauss, Lowew and their co-workers at the Mount Sinai Hospital of New York. These are not accepted, however, by the discoverers of the very similar globoid bodies of poliomyelitis. Both groups claim to have reproduced the disease in animals and we must admit that they have produced an inflammation in the brains of the animals. It behooves us to be skeptical and maintain an expectant attitude, remembering how constantly, for instance, pathogenic streptococci are present in scarlet fever patients and yet they are not the cause of scarlet fever. Recently a great deal of work has been done in France and Switzerland with a virus from ordinary febrile herpes and it is claimed, particularly by Levaditi of the Pasteur Institute, that under certain circumstances the virulence of this virus is increased so it becomes capable of attacking nervous tissue. To use Levaditi's words, from being merely "epitheliotropic"; that is, capable of attacking skin and mucous membranes, it becomes neurotropic, passing through the barrier of the nasopharyngeal mucosa, thence along the nerves to the brain. It is claimed that rabbits inoculated with herpes virus are immune to the virus of encephalitis and vice versa. Either virus will attack the cornea when inoculated into it. Kling in Sweden does not believe in any of the theories mentioned and thinks that he has been able to pass

the true virus from man to animals but he has not been able to isolate any organism.

Influenza and encephalitis. It is clear that the latter is not a mere sequel of the former as most of its victims have not had influenza. While in a general way epidemics of the two diseases have coincided in a striking manner, this is not a universal rule. Cases of encephalitis appeared in Vienna and probably in France before the influenza epidemic, and in many localities influenza had become rare when the encephalitis epidemic reached its height. The tendency to pneumonia and to leukopenia characteristic of influenza is lacking in epidemic encephalitis. Of great importance is the fact that the type of encephalitis most frequently seen as a direct sequel of influenza differs from the epidemic form by a greater tendency to hemorrhages and by not selectively involving the basal ganglia. Nevertheless, no matter how much we emphasize differences between the two diseases, we must admit some sort of relationship. Economo suggested that the encephalitis virus requires activation by that of influenza except that with poor nutritional and hygienic conditions as they prevailed in Vienna during the war such activation is unnecessary. It has also been suggested by Stern that influenza produces a weakening of the vessel walls and increased permeability of the capillaries which predispose to localization of the encephalitic virus. Stern suggests also the pneumococci, streptococci and other bacteria in addition to the influenza virus may act as activating agencies.

Sequelae. In marked contrast with poliomyelitis the sequels are rarely paralytic but consist of motility disorders of a positive kind. This is readily understood when we recall the destructive type of lesion in poliomyelitis and the milder type with merely inflammatory infiltration and light cell changes in encephalitis. Once more I will quote a phrase by Hughlings Jackson: "Positive lesions cause positive symptoms, negative lesions, negative symptoms." The cell destruction of poliomyelitis leads to muscular atrophy and paralysis: The irritation of the nerve cells in encephalitis leads to tremors and every conceivable kind of muscular jerking, singly or in groups, except epileptiform convulsions which are very rare because the cortex is so slightly affected.

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The transplantation of glands to renew youth and other synthetic physical phenomena and psychic pyrotechnic displays is on the wane. A grain of truth magnified and distorted until its friends fail to recognize it—almost.

Neurological Diseases as Manifested In Gynecological Practice

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There are so many phases of gynecological practice and relatively so little said and written on this, my subject, that I deem it quite pertinent at this time to give expression to some of the things which have frequently come up. This subject has been under consideration for some time and has had much study, investigation and deliberation, and as complete records are made and kept of all cases coming under my observation and treatment, this paper is a result or an outgrowth of such records and observations.

I should not want to be considered as making an intrusion on the field of the neurologist or of the psychotherapist, but I believe that it is preeminently my domain to know something in this line, as it is pertinent to my specialty. Further I am coming more and more to believe that the gynecologist should and must be to some extent a neurologist and psychotherapist, at least to such an extent that he will be able to recognize the mode of onset, general manifestations, etiology as far as possible, and also to a great extent the recognized treatment that he may intelligently, if necessary, refer the patient to such a specialist and institution for treatment of this kind of disease. If we as gynecologists would refer all women coming to us who have some form of neurosis or psychosis, a very large number of our cases would be referred.

At the present time we have an almost universal spirit of unrest in our social, business and economic life, and since the granting of universal suffrage, with our women entering all fields of activity and engaging in all kinds of business, living in a continuous nervous and physical strain and constant excitement and uncertainty, we find an ever increasing number of cases of developing neurasthenia. Again, every normal woman at some time in her life has a longing desire to be a wife, a home maker and a mother. After these women have spent a large part of their early life in active business, with all its cares and uncertainties, what kind of wives and mothers would we expect them to make? Is it any wonder so many of our girls are unfit for the duties and responsibilities of married life and motherhood? Such cases of unstable nervous equilibrium must go back to the quiet, normal life, live free from all excitement and depressing influences, to hope for and expect the best results.

All of our young girls should be judiciously trained and managed as to quietly and sensibly meet the exigencies of life, as this forma-

tive period is the time when the foundation is laid for future nervous conditions or a strong and vigorous womanhood. It is in the family life or early home training where the girl gets the start which carries her successfully on all through life or makes her to fall by the wayside.

Our modern life is not only expensive, it also is productive of increasing and varied ills. Our public school system in its education and cultural ideas and endeavors, with its extended terms, necessitating these young and developing girls to spend the long months in some instances as much as ten, in concentrated indoor work, is productive of unbalanced culture, unstable nervous systems, and lays the foundation for a future possible neurosis or psychosis. In many instances they are not satisfied either as a student or teacher but spend a part of the summer in some summer school trying to make up some work or add to their store of facts, which in itself is indeed commendable, but what are the results in later life?

It is not uncommon to find these girls anemic or chlorotic, with an associated amenorrhoea, or dysmenorrhoea, constipated bowel, headaches, palpitation, listless, lacking the power of thought concentration and with a general trend toward a nervous and physical breakdown. Many of these are the girls who are to be the wives and mothers, the home makers and the burden bearers of the coming generation.

We are placing too much stress on intellectual development and on cultural education to the neglect of the physical organism. Too long indoor mental work with too little outdoor recreation, with undevelopment of the physical, is our great danger, especially after nature has sounded her tocsin or hung out her danger signals.

Our primitive women had few of these functional neuroses, while at the present time we find them most common in the cultured and educated which is rather conclusive evidence that nervous breakdowns and morbid states of the nervous system of all kinds are found most with increasing demands on the nervous system. This condition is found so frequently that I have often called it "Cultured or Educational Neurasthenia."

I do not want to be misunderstood in my statement relative to work as I believe that work, good hard honest toil, is a necessity in the physical and intellectual salvation of our girls, that they might develop into strong stable women.

Recent investigation and experimentation in some of our Eastern hospitals for the insane have brought forward some very interesting data in regard to the relation of mor-

bid states of the system to insanity, and this brings up the interesting and pertinent subject regarding the relation of neurological diseases in gynecological practice. Some gynecologists, Bossi for instance, have gone so far as to state that psycho-neurotic conditions and manifestations, even to the more severe mental diseases, including mania, with suicidal tendencies, are the direct result of constant and long continued irritation of the pelvic organs of a gross nature, while other equally good men regard the more minor lesions as more responsible for the general neuroses.

I have found in my work that such minor lesions as retroversion or flexion and anteversion or flexion, with a possible prolapse of the uterus or of the anterior wall of the vagina, are often associated with insufficient drainage and a possible endometritis or dysmenorrhoea and a consequent toxemia with its varied manifestations. Some authors are inclined to look on this type of infective endometritis as absurd and claim that such is not found except in septic puerperia, and not at all caused by such conditions as misplacements. With this idea I could readily agree if our women were all following the teachings of modern asepsis; but when we have so many women taking all kinds of vaginal douches, under all conditions and circumstances, and when so many means and measures are used as contraceptives, including the introduction of all kinds of pessaries without the least regard or knowledge of cleanliness, I am sure of many such cases of infection in my own individual practice. However these cases of infection are of a milder character than the puerperal ones, as nature seems more resistant than at the puerperium.

Many cases of cervicitis, endo-cervicitis, endo-metritis, and general metritis and parametritis are surely of this character; while others are the result of specific infection, especially Nisserian, but all have a baneful influence in the production of neuroses or of psychoneuroses.

Again what are the results of a cervical tear and what symptoms may we expect. In some patients we will find little evidence, either physical or nervous; while in others we will find both, from a mild to a profound degree. Probably the most common secondary conditions are subinvolution, displacements, and endometritis, and the most common symptoms are backache or sacro-lumbar pain, pain in the sacro-iliac synchondrosis, dragging down in the pelvis, headaches, vaginal discharges, menorrhagia or metrorrhagia with either sterility or abortion. As time goes on these patients lose weight, the appetite becomes poor, digestion is bad, the bowels

are usually constipated and a general toxic condition results. Neuralgic pains are not uncommon and finally a general psycho-neurotic condition with its sensory and motor phenomena appears.

What has been said of lacerations of the cervix may to a greater or less extent be true of lacerations of the perineum. In one patient no special symptoms are manifest while in another they may be from a mild to a serious character. Treatment: Build up the patient and repair the injury, attend strictly to the nutrition, regulate the daily life, free elimination, and freedom as far as possible from the worries and cares incident to such patients. We must not forget that some women have what might be called a nervous unbalance, which does not appear until some extra strain is placed on them and then the nervous manifestations appear in various ways and degrees.

Most gynecological patients who consult us may be placed in one of three classes:

1. Those women who have a well defined gynecological lesion, but as far as we can ascertain have no definite nervous symptoms.

2. Those women who have a definite pelvic lesion which is responsible for the existing nervous condition.

3. Those women who have a well defined nervous state which is aggravated by the gynecological lesion.

Many of these women are generally run down, both mentally and physically, have a poor appetite, constipated bowel, headaches, more or less eye strain, insomnia, anemia, and a general lowered vitality and an auto-toxic state, all of which increases the possibility of a psychoneurotic condition. If, coupled with these findings, is a knowledge of the patient that her gynecological condition is specific in character, or that a possibility of cancer may supervene, the apprehension and mental worry are increased and this in turn increases or intensifies the general neurosis. In many of these women the mental habit becomes pathological and she looks through the reversed end of her mental microscope at her-self and sees only an increased magnification.

THE RELATIONSHIP OF MENSTRUATION TO NEUROLOGICAL DISEASES

Menstruation is a highly specialized, periodic process of the woman occurring during the period of productivity, in which anabolism and katabolism are balanced and believed to be brought about by ovarian hormone activity. When we have a condition of amenorrhoea or very irregular menstruation in the woman of active function, we are apt

to find lowered muscular tone and lowered vital resistance, and we should look for and expect to find some evidences of melancholia as metabolism is usually below normal.

Not all women with menstrual derangements have pronounced nervous or neurotic symptoms, but it is quite significant the number who have nervous manifestations and at the same time also have menstrual anomalies. I have observed in my practice that a general toxemia and menstrual disturbances are often associated and that many of these same patients have a leucocytosis. I have also found that in melancholia we are likely to have scanty menstruation, dark, tarry, more or less offensive with dysmenorrhoea. It has been rather significant the number of cases of mania and delusional insanity with regular menstruation and the number of cases of melancholia with amenorrhoea. Also that the majority of my cases with mental and nervous symptoms were aggravated by the coming of menstruation.

Some authorities claim that 25 per cent of women in asylums in the United States have and suffer from some form of pelvic lesion. Not all such cases are to be considered surgical, but it is remarkable what conservative and sensible surgery will do in many cases of lesions of the genital tract or pelvic organs. My records show many cases of such operations in which, after a reasonable length of time, the nervous and mental symptoms entirely disappeared.

In many of our cases we find an existing primary pathological neurosis which is increased or exaggerated at the menstrual period, and in many of these women we find criminal or even suicidal tendencies. In others we have erotomania, kleptomania or dipsomania. In still others we have an over amount of energy, in which the woman works all the time, a regular mania, known in medical literature as ergasiomania, while others are just the reverse and are perfectly satisfied with whatever conditions surround them, or what we call ergasiophobia.

One investigator, Lombroso, found that out of eighty women arrested for some offense, seventy-two were having a sick period. Another found that of fifty-six women detected for thefts in shops in Paris, thirty-five were menstruating. The majority of suicides in women are committed at the time of menstruation and many women have suicidal tendencies at such times. Menstruation, pregnancy, and the puerperium all have a prominent influence on the mental and nervous life of the woman and the fact is well recognized that during the monthly period the insane woman is worse, and may be affected only at that time.

I believe that it is equally, if not more necessary, for the gynecologist to be a neurologist than for the neurologist to be a gynecologist.

Insanity may be associated with disease of the brain or with disease of the body, indirectly affecting metabolism; or, conversely, faulty metabolism may indirectly affect the mental and nervous system. The insanity in many of these cases being the mental expression of the bodily disease; or it may be due only to maladjustment of the individual to herself or to her surroundings.

In the war service we found many cases of traumatic neuroses and also many cases of traumatic hysteria. In many of the cases of traumatic neuroses no visible injury could be found. We also find similar cases in civil practice as instanced in automobile and in railroad accidents in which a child may be run over and the effect on the driver or engineer is that of a severe traumatic neurosis, though neither the driver nor the engineer received any physical injury.

In our gynecological practice we often have similar cases in which we find a definite lesion of some character and which in some way is associated with gestation or with the puerperium. We can usually find the injury in the birth canal, and it is nearly always some form of trauma of the cervix or of the perineum, visible on examination, but not always. In some cases we may have a submucous injury either of the cervix or of the perineum; or it may be an injury of the deeper structures from over distention, congestion, or stretching during the period of gestation, or parturition. In either case our skill and experience must determine the etiology. There are many things in our practice of which we feel sure and certain and yet we cannot give a scientific and satisfactory reason for such. We find the same in our theories of the neurological diseases coming under our observation. I believe many of these cases coming to us for diagnosis and treatment are due to definite toxic conditions of the system; to deficient hormone activity; to chronic irritation of the pelvic or sexual organs; many others are the outgrowth of lack of early parental training and lack of self control; others are purely imaginary; and still others are definitely sexual, due either to over activity, misdirected habits, or to unsatisfied sexual desire.

This is largely theory, but theory based on experience, observation, and actual treatment of cases. What the patient wants is to get well and enjoy life to the fullest possible extent.

What is a neurosis or a neurological dis-

ease? Most of the time it is misunderstood by the patient or her friends and the term is used largely to cover our own ignorance, or, we might better say, for lack of a better word. We usually define it as a pronounced nervous manifestation or a combination of manifestations, functional in their character and independent of any real organic lesion. However I believe that many gynecological cases have a definite and well defined organic injury. They embrace a wide range of symptoms and probably cause as much suffering and anxiety as genuine organic lesions.

Hysteria is probably first among the neuroses of women, though by no means, confined to them as men are also affected though much less frequently. We find many cases of hysteria in men following influenza or other depressing hemolytic diseases. Other types are: hysterio-epilepsy, neuralgia of the ovaries, dysmenorrhoea, and conditions arising at the menopause; migraine, myalgia, epilepsy and insomnia; any of which at times will test the real patience, diagnostic and therapeutic ability of the gynecologist.

From our early medical literature we learn that the relationship between the pelvic organs and neurological diseases was recognized, and some considered the uterus as the center from which started most of the nervous troubles of the woman. Hence the word "hysteria" from the Greek *hystera*. Some of the older men laid special stress on the necessity of having a uterus in order to have hysteria.

Many women become obsessed with the belief that all their troubles and symptoms are uterine or pelvic in character, as in fact many of them are, as we all know that the reflex neuroses often arise as sequelae of some genital irritation, uterine, ovarian or tubal. In fact some rather prominent men claim that many or most of the nervous and mental symptoms are preceded and caused by some lesion in the genital tract. We know that with some women their whole life centers and revolves around their pelvic organs, and many have more pronounced symptoms after learning of a pelvic lesion.

The association and co-operation of the gynecologist, the neurologist and the surgeon should be an intimate one in the best interests of the patient. There have been in the past many mutilating operations done in the name of good surgery, which failed to bring relief to the unfortunate woman. On the other hand we have the neurologist, who by a long drawn out, expensive, psychotherapeutic treatment tries to treat cases which in their very nature are purely and definitely surgical. A little team work here might be

more creditable to the profession and also more helpful to the suffering woman. Women are the real sufferers and burden bearers of humanity and I cannot put too much emphasis on the real helpfulness of team work and an active and systematic co-operation in diagnosis and treatment in many gynecological anomalies.

How many of us take the time and trouble to learn the real every day work life, the marital life, the social life and the economic life of the woman, and determine definitely as far as possible the cause and nature of her neurological disturbance as a preliminary to treatment. I have many times found it advisable to send the woman away from home in order that she might have an opportunity to have a complete rest in every way, mental, physical, marital, as it is practically impossible to have success under existing conditions in the home.

Many women date the beginning of their neurological manifestations to a first birth, and others by a succession of births close together when they do not get the requisite rest from lactation and household duties. A possible suggestion for a better obstetrics and a better gynecology.

There are so many etiological factors causative of the neurological manifestations in our gynecological practice that it is practically impossible to exhaust the field in a paper at one time. In conclusion I will say that I have treated this very important subject in a very cursory manner and not entirely to my own satisfaction, as I consider it worthy of great consideration. There is probably no subject in all the field of gynecological practice which is capable and worthy of greater investigation. There seems to be a peculiar and not well understood relation between the female pelvic organs and the central nervous system, and irritation and anomalies in the one cause definite manifestations in the other, with its complex of symptoms.

If we will constantly bear in mind some of the things I have tried to set forth, in our general care and treatment of our cases and be conservative and sensible, I believe there will be fewer mistakes on the part of both the neurologist and of the gynecologist, and a greater benefit to the patient.

—R—

Peter Bassoe says in the September number of Medical Clinics of North America: "Epilepsy is on the way to be looked upon as a reaction of a more or less protective type to a great many disturbing psychic, physical, and chemical agencies, usually only appearing in neuropathic individuals of a certain kind, possessing the 'epileptic constitution.'"

BELL MEMORIAL HOSPITAL CLINICS

Surgical Clinic of Dr. Thomas G. Orr

1. TUBERCULOUS TENOSYNOVITIS OF THE DORSUM OF THE HAND.

This patient presents a condition which is not uncommon or obscure but which is sometimes wrongly diagnosed as will be shown in the subsequent history. She is a colored woman 21 years of age and married. Her occupation is general housework. Seven years ago she noticed a small swelling on the dorsum of her right hand. This has gradually increased in size. Two years ago a similar swelling appeared on the dorsum of the left hand which has also grown larger but has not reached the size of the swelling on the right. Her only complaint is weakness in both wrists when she works. The general physical examination is unimportant. There is no evidence of an active tuberculosis of the lungs.

The swelling on the right hand begins about 2 cm. from the knuckles and appears to extend upward into the wrist along the tendons. This is not so noticeable on the left but there is a suggestion of it there. They measure about 3 cm. wide by 8 cm. long. Both swellings are soft and semi-fluctuating but do not appear to contain much liquid. A diagnosis of tuberculous tenosynovitis has been made and operation advised.

After infiltration of the skin and subcutaneous tissues over the tumor with 1/2 per cent novocain, an incision 8 cm. long is made parallel to the tendons extending upward on the wrist. Beneath the skin the tendon sheaths are found distended and when opened contain some free liquid and what appears to be granulation tissue. In places this is closely adherent to the tendons. It is evident that the process extends beneath the annular ligament so this is divided. The entire mass of diseased tissue is now carefully dissected out. It is rather tedious to free the tendons of all granulations but this is necessary for a cure. After this is accomplished the annular ligament is sutured with chromic gut, the subcutaneous tissues with plain gut, and the skin with silk. The wound has been closed without drainage.

The left hand is treated the same as the right and the same pathologic condition found.

It may be of interest to report another case of this disease which I have observed in a discharged soldier and have operated upon with much the same findings as in the case here shown. He was 41 years of age and had no occupation in particular. He stated that the onset of his trouble began three years be-

fore the time of the operation. Swellings appeared upon the dorsums of both hands about the same time, and have slowly increased in size. He complains of weakness and soreness in the wrists. It has been reported that he was discharged from the Army with a diagnosis of arthritis of the wrists.

On examination the condition presented a picture similar to the one you have seen except the swellings were larger. The consistency was soft and semi-fluctuating. There was a distinct rise in surface temperature over both swellings. It was evident on both sides that the process extended upward beneath the annular ligaments.

The most interesting feature about this case is the fact that it was diagnosed chronic arthritis of the wrists and ganglion of the tendon sheaths, a diagnosis which he carried for three years. X-ray before the operation showed the bones and joints to be normal. Operation was done in a manner similar to that you have seen and a pathologic process found not unlike what was here presented.

No rice bodies were found in either one of these patients such as are common in many such cases. Dr. H. R. Wahl was unable to demonstrate any typical tubercles in the tissue examined but could not exclude tuberculous. He gave as his opinion that the tissue was probably tuberculous. Stains for tubercle bacilli were not made.

DISCUSSION

This condition is of interest especially from the standpoint of diagnosis. The disease may be mistaken for ganglion as in our second case. Indeed you will find in some of the old texts that tuberculous teno-synovitis is called compound ganglion. One of our cases was stamped with the diagnosis of arthritis of the wrists and double ganglion for three years. When a chronic swelling is found on the dorsum of the hand in the area of the dorsal tendon sheaths which is roughly triangular in shape with the base of the triangle toward the knuckles and the blunt apex extending upward into the wrist, tuberculous teno-synovitis must always be considered.

The treatment of this condition is surgical and it can be cured by surgery. When operation is done great care should be taken to remove all of the granulation tissue, leaving the tendons clean. No drainage is advisable. A healing by first intention may confidently be expected.

2. LIPOMA OF RIGHT LABIUM MAJORA

The condition presented in this case is rather unusual and has interested us from the standpoint of diagnosis. The patient is 42 years of age. Two years ago she noticed a small swelling in the right inguinal region

and consulted her physician. She was told it was a hernia and reports that he reduced it. Since then the swelling has increased in size and extended into the right labium. There is no history that the tumor has ever reduced itself spontaneously when the patient was in the decubitus. She states that the only inconvenience the tumor has caused her has been some chafing in warm weather.

On examination there is a mass which involves the entire right labium majora measuring about 7x15 cm. and extending upward to the external abdominal ring. Efforts at reduction have been unsuccessful. The mass is smooth and soft and moves freely under the skin and over the deep tissues. When it is drawn strongly downward the tip of the index finger can be introduced into the external ring but no impulse of a hernia can be felt. At the same time there is a thickening at the ring which casts some doubt upon the advisability of excluding the thought that there is tissue protruding from the ring. With these findings we have decided that this is probably a lipoma extending downward from the external ring. With this in mind we shall make but a short incision about 6 cm. long over the external ring. A definitely encapsulated fatty tumor is found which is easily enucleated. It seems to get practically all of its blood supply from the region of the external ring. When the whole mass is dissected free it is found that a lobule extends into the external ring about 3 cm., filling the ring area. There is no evidence of hernia. The external ring is closed with chromic gut and the superficial fascia and skin sutured.

This case, while presenting the simplest of tumors, is of interest from the standpoint of diagnosis since the patient was told two years ago that she had a hernia and has had that opinion since. The unusual feature is the extension of tumor lobule into the external ring. It is an illustration of the ubiquity of lipomata and a simple lesson in diagnosis for you to carry away today.

R

One who signs himself a septuagenarian M.D. testifies, in the London Lancet, to the harmful effects of the use of the tooth brush and claims that his remaining sixteen teeth have never been so white or so comfortable as since he discarded the tooth brush for cotton wool a year ago. There are many, no doubt, not nearly so old, with full sets of teeth than can be taken out and scrubbed with soap and water, who regret the careless attention given their teeth in their early years. A man seventy years old, who has used a tooth brush twice a day until a year ago and has sixteen good teeth left has no ground upon which to fight the tooth brush habit.

THE JOURNAL

of The

Kansas Medical Society

W. E. McVEY, M.D. - - - **Editor**

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Since the American Medical Association is a federation of state societies, and each state society a federation of county societies, and since every member of a county society is, by virtue of such membership, also a member of the American Medical Association, he should and does have a voice in the management of the affairs of this now great organization—theoretically at least. The members of such an organization as this, democratic in theory and presumably in fact, have the right to criticize the officers in charge of its affairs and to offer suggestions for betterments in its management. Such criticism or suggestions may not be disregarded with impunity by those in authority no matter how inappropriate they seem or how insignificant their author may be. The opinions of one man may ultimately become the opinions of a majority. And in a representative body such as our House of Delegates the opinions of the majority must govern its policies and the policies of those it elects to carry out its purposes.

It is almost axiomatic that things immune to criticism are usually of insignificant importance. The fact that those upon whom devolves the management of the Journal and the affairs of the Association have been subject to criticism varied in type and character,

evidences a general recognition of the important relation it bears to the profession and manifests the general interest in its affairs that has been awakened in the profession.

One may not logically ascribe ulterior motives to those making criticisms that in themselves show the tendency to more intimately correlate the functions of the association with the interests of the profession at large, which some of them at least do show.

One may respect the opinions of others without accepting them, as one may recognize the right to criticize without approving the criticism or the basis for criticism. Many of the specific charges made against the management of the Journal and other affairs of the Association may be summarized in the general criticism that there is a too great centralization of authority. The old cry of "ring control."

A great many will agree with the sentiment that the past performances of this organization—call it "ring," "clique," "star chamber," or by any other epithet—as manifested in the remarkable growth of the Journal and the Association, and the varied activities for the benefit of the profession now under its direction, justify its continuance and encouragement. If too much has been delegated to the Board of Trustees it is the fault of the House of Delegates who adopted the constitution and by-laws delegating such authority and who elected the officers to whom the authority is delegated. If the trustees improperly use the authority so delegated it is the duty of the House of Delegates to investigate and correct the fault. The House of Delegates is responsible to the membership for any remission in its duties, but the membership is primarily responsible if it fails to send its best qualified men to the House of Delegates.

The only way to successfully manage the affairs of a large organization having many stockholders or many members is by delegation of authority to one man or group of men selected by the stockholders or members for the purpose. With the authority delegated there must go also certain discretionary powers, otherwise the management must be seriously handicapped when emergencies arise. The plan of organization of the American

Medical Association does not differ essentially from those of other large organizations where centralization of authority is essential to successful management.

If, however, in its organization the plan outlined for state societies had been carried on through and the trustees elected from districts of states as the councillors are elected from districts of counties, at least some of the grounds for criticism would have been eliminated. The Board of Trustees would then have been a representative body and each one of them responsible to the component societies of his district.

Nothing has been reported from any of the units in Kansas that would indicate the criticisms widely circulated have made any marked impression upon the membership here. The general sentiment seems to be for stronger support and more encouragement for those who have demonstrated their worth to the Association.

Some criticisms have been offered which should be classed as constructive in their tendency. One of these concerns the office of Treasurer. It has been said that this officer is but a figure head and one may conclude that such is practically the case from the statement made by Dr. Billing's before the Ohio State Society in 1922. He said:

"The present duties of the Treasurer, as outlined in the By-Laws are the same as when I was Treasurer from 1904 to 1912. Then, as now, securities were purchased with surplus funds by the Board of Trustees or by its directions. Then, as now, the handling of large daily cash and check receipts and the making of checks for payments due was carried on by clerks properly bonded, at headquarters. This is the only practical method by which the daily business of the Association can be expedited. Should a treasurer give up the necessary time to do all this work, he would be obliged to sacrifice his medical practice. Under the By-Laws the trustees are required to have the accounts of the treasurer and of The Journal audited annually or as often as may be necessary, by qualified, certified accountants, and to report the same to the House of Delegates."

With the earnings of the Journal amounting to more than a million dollars annually the office of treasurer should be one of no

small importance. To suggest that the House of Delegates should elect to this position a man competent to fulfill the duties of the office, and to provide a salary to justify his being on the job, seems timely at least. One can only wonder that any man would be willing to assume the responsibility of the office without being actively concerned in the disposition of so large a sum of money.

Another of the criticisms that seems to have originated from a constructive point of view concerns the need for some medium of communication between the administration officers, the House of Delegates and the fellows and members; in which may be discussed those subjects related to organization, legislation, medical economics, and the policies of the Association. There is a very serious lack of information among the members concerning the affairs of the Association. Certainly they should be kept informed of all the important activities to be undertaken, as they should also know something about the details of administration. It is understood that the Bulletin was originally intended to serve such a purpose, but up to the present time has not reached any considerable number of fellows and members. Some medium of this kind seems to be a definite need and it is to be hoped that the Bulletin will be developed along these lines, or that a supplement to the Journal will be published for the purpose.

There are now approximately 1550 members in good standing in the Kansas Medical Society and these are all members of the American Medical Association. They are represented in the House by two delegates—provided both of those elected attend. By a custom adopted many years ago, the retiring president is elected a delegate to the American Medical Association for a term of two years. If the delegates so elected are unable to attend, some one who does attend is supplied with the necessary credentials to act as alternate. The result is, very naturally, that the Kansas membership has not been very actively represented. In justice to the members some one should be selected to act as delegate who will attend the meetings,

some one who is sufficiently familiar with the organization and its rules and regulations to take an active part in the proceedings. If such a delegate can be agreed upon he should be re-elected every two years as long as he is willing to serve.

It is possible that when the reapportionment of delegates at the next annual meeting Kansas may again have three. In that case the honor may still be conferred upon the retiring president and the duty imposed upon a properly experienced delegate. There are a number of men in our state society who are regular attendants at the annual meetings of the American Medical Association, and from these a delegate might be chosen who will represent the Kansas membership with credit to himself and his constituents.

R

Reapportionment of Delegates to A. M. A. Meeting

The By-laws of the American Medical Association provide that there shall be a reapportionment of Delegates among the constituent State Medical Associations every 3 years. The last apportionment was made at the Boston Session in 1921. A reapportionment is to be made at the coming annual meeting in 1924. This will be effective on the basis of the membership of each constituent association as recorded in the office of the Secretary of the American Medical Association on April 1st, 1924, and will determine the number of Delegates to represent each State Association each year until 1927.

R

A Geographical Error.

In column headed Medical News in the Journal of the American Medical Association, Dec. 1, appears a report on the diploma mill scandal from Connecticut and this article includes a clipping from the *Bridgeport Telegram* which is in part as follows:

"The situation into which the state of Connecticut has gotten itself by laxity and carelessness in the issuance of medical licenses is illustrated by the fact that but for the timely newspaper exposure, the Kansas "diploma-mill" might be sending its young men into Connecticut by the carload, with a number of its own "graduates" sitting on the examining board and passing them through as fast as they came!"

It might be well to say at first, for the information of the editor of the *Telegram* and possibly others who may have "flunked" in geography, that neither St. Louis nor Kansas City, Missouri, are in Kansas.

In 1922 the Kansas Board of Medical Registration and Examination refused to examine graduates from the Eclectic School in Kansas City, Missouri. One applicant appealed to the Supreme Court in an effort to compel the Board to examine him. The court, however, sustained the Board.

This school in Kansas City, Missouri, has never had any standing and it is not easy to understand why its diplomas should have been so readily accepted by states which make a pretense of regulating the practice of medicine.

The "discovery" of the fraud simply brought to light a condition of affairs which might have been uncovered by the examining boards had they taken the trouble to scrutinize more closely the credentials brought to them, and to verify the diplomas from the various schools.

R

CHIPS

A sure cure for a disease should be taken while it cures, for it may be like the fashions, out of date soon.

Dessert should be eaten, if at all, at the beginning of the meal and not at the ending, thus tempting the eye and appetite to put too much fuel in the firebox and obstruct the draft and smother the fire out and fill up on the clinkers and disable or stop the machinery.

There are 174 lepers at Carville, Louisiana. The government has authorized new buildings. These will accommodate 204 more patients. It is believed that there are 1000 lepers in the United States. Of those now at Carville one-fourth are totally blind.

Purpura is not now regarded as a disease entity but as a disease symptom. It is a symptom occurring in so many diseases that its appearance is of doubtful value in diagnosis. Purpura hemorrhagica may occur in any infection and the degree of virulence will depend upon the virulence of the infection.

One who reads much of the current literature on the subject of hypertension must come

to the conclusion that very little is really known about its causation and much less about the rational treatment of those suffering from it. There are so many different theories and so few facts that one might as well do his own guessing.

A case of purpura hemorrhagica in which the blood showed a red count of 2,700,000 and a white count of 250 with hemoglobin 37 per cent, was reported by Charles Spencer Williamson in *The Medical Clinics of North America*, September number.

For sometime now one has been compelled to read or listen to learned discussions on the "acute abdomen." More recently ones peace of mind is fractured by the "internist abdomen" and the "surgical abdomen."

According to the records of the Metropolitan Life Insurance Company 42 per cent of the fatal accidents among their industrial policy holders arose out of the pedestrian use of the streets; 47 per cent were automobile accidents. For all automobile accidents one-quarter occurred among passengers and nearly two-thirds among pedestrians.

In an article on collapse in infancy and childhood which appeared in the September number of the *Medical Clinics of North America*, Dr. Isaac A. Abt says of the administration of camphor in these conditions: "In the light of more recent investigations concerning shock and collapse there should be no hesitancy in saying that the administration of camphor used as a cardiac stimulant is not calculated to relieve the diminished flow or volume of blood, the capillary stasis, or the paralysis of medullary centers. Even if it succeeds as a cardiac stimulant, it does not act to relieve the other and more important changes which have gone in the organism. Therefore it should not be considered a potent or important factor in the treatment of shock and collapse."

As to the significance of the leucocyte count it is generally agreed that in most acute infections the total number of leucocytes in the blood is the measure of the patient's resistance, while the percentage of polymorphonuclears is an index of the severity of the inflammation. A decrease of lymphocytes below the normal is unfavorable while an increase up to certain limits, is favorable. According to Walker, in diseases progressing favorably there should be a fairly constant ratio between the total white count and the per cent of polymorphonuclears. Taking 10,000 as the highest normal white count and 70 as the highest normal percentage of poly-

morphonuclears, for each rise of one per cent of the latter there should be an increase in the total count of 1000 above 10,000. If the polymorphonuclear percentage is 80 the total white count should be 20,000.

There is an acute, infectious, and contagious disease, sometimes occurring in epidemic form, which is characterized by rapid and marked enlargement of the cervical glands—and occasionally by enlargement of the spleen, axillary, inguinal and other glands; and a pyrexia of from 100 to 105. A hemorrhagic nephritis may complicate the attack. It has been described as infective mononucleosis and it is claimed by Tidy and Daniel (*Lancet* July 7) to be identical with glandular fever an epidemic of which they report. From their observations they have concluded that it is a clinical entity; that an absolute lymphocytosis is a normal occurrence; that recovery is permanent and there is no relation to leukemia, Hodgkin's disease or tuberculosis; that there is no evidence that sepsis is a cause of lymphocytosis.

The *American Journal of Roentgenology and Radium Therapy*, the official organ of The American Roentgen Ray Society and the American Radium Society will appear in enlarged form in 1924, the increased pages being given to more illustrations, more abstracts and more original articles. Dr. A. C. Christie who was Colonel in charge of roentgenology in the U. S. Army during the war will be the editor. Dr. James T. Case, Dr. H. K. Hancock and Dr. W. Duane will be the associate editors with a large collaborating staff of the leading roentgenologists in the country. The subscription price is \$10.00 and *Journal* will be published as formerly by Paul B. Hoeber, Inc., New York.

The intrinsic value of the corn cob is increasing as its virtues become known. In former days its use was confined to matrix for grains of corn and for fuel. Later it was used for children to build cob houses, for jug and bung-hole stoppers. When the Pop. legislature was in session in Topeka some twenty odd years ago wagon loads of cobs were used by the Pop. representatives instead of toilet paper.

But now Prof. Elton R. Darling is making synthetic wood. This wood can be nailed, sawed or turned on a lathe without splitting. But before turning the cobs into wood he extracts a substance he names furfural. This product is used in the manufacture of vulcanized rubber specialties. The present price of manufacturing the new product is thirty-five dollars a pound.

"An essential problem in the practice of medicine in dealing with a sick person is to know what makes him ill and why he dies. To say that he has pneumonia, or that he is infected by the pneumococcus microbe is quite true, but that is not enough. The microbe may be the agent and the inflamed lung one of the results, but they do not tell us why he is ill. The doctor is called in because he is supposed to have the knowledge and to be able to use remedies to combat the illness; this he cannot do for he does not know the nature of the illness. One doctor may fancy the lung needs treatment and applies a poultice to the chest; another that the heart is "failing" and gives remedies for the heart; and a third that the blood is not sufficiently aerated and prescribes oxygen; while another attacks the ill health with a vaccine and so forth—no one really knowing what to treat." (Sir James Mackenzie. London Lancet.)

The Menace of "Moonshine" Whisky. The untoward results of overindulgence in whisky have usually been ascribed to its alcoholic content, although now and then ill-defined "by-products" of fermentation present in the distillate have been charged with a toxicity out of all proportion to the quantities ordinarily present. The indefinite "fusel oil" and furfurol were often designated as the pernicious ingredients. In properly made and suitably aged whiskies, such constituents could at most play only a minor part in the intoxication produced. While alcoholism is less prevalent today than it was a few years ago, its attendant and after effects on its victims are more serious. The impression is broadcast that this is due to the "moonshine" liquor which is being distributed. The danger from the presence of methyl alcohol in "moonshine" whisky is well-known. Its presence is explained by the use of denatured alcohol (which may contain methyl alcohol) in the preparation of "moonshine" whisky. However, the investigation of the federal authorities indicate that ordinarily methyl alcohol is not the pernicious constituent of illicit whisky, but instead the product has been found often to contain a high proportion of acetaldehyd. The "ranker" the liquor, the higher the aldehyd content. (Jr. A. M. A.)

In a series of articles on biologic therapy prepared under the auspices of the Council on Pharmacy and Chemistry, W. C. Davison (The Journal, Jan. 22, 1921, p. 242) concluded a review of the use of pertussis bacillus vaccine thus: "In summing up the prolific and somewhat contradictory literature on this subject, it may be concluded that injections of Bordet-Gengon bacillus vaccines may have a

slight though unreliable prophylactic effect, and that therapeutic inoculations are of practically no value. Further experiments are necessary to raise this procedure from the limbo of non-specific therapy." The Council on Pharmacy and Chemistry has accepted pertussis bacillus vaccine for New and Non-official Remedies, but states in regard to the usefulness of the product: "The evidence indicating that it is of value for either prevention or treatment is very questionable, and the reports are conflicting." (Jr. A. M. A., Nov. 24, '23.)

—————R—————

Contemplations by the Prodigal

THE PRODIGAL SON (Justified)

He tramped from Tyre to Sidon
With his sandals on his arm,
And then he struck for Jordan
And the old ancestral farm.

His mantle was full of burrs
His noble brow with dew was wet.
The fatted calf, it tugged upon
A horse hair lariat.

His father ran to meet him
"Right glad," said he, "I am.
Your trunk got home. Your ma
Is well. We got your telegram.

Tomorrow night the banquet is;
Your auntie reads a pome,
And you respond unto a toast,
"There's nary place like home."

The prodigal looked sad, and then
With choking voice said he,
"Good-bye, good-bye, old home
Them husks is good enough for me."

Then came a dull and sickening thud
That no one could forget.
That calf in glee had run and bust
That horse-hair lariat!

Iron Quill.

Eugenics is being practiced more in breeding men as intelligence increases. The stock man's method in improving his herd of cattle is by selection and elimination, or positive bovine eugenics. The principle is correct in getting good results in the human family but would not be tolerated in present day society as organized. In fact it is a brutal method to get commercial results.

To improve the human negative eugenics is employed. Prohibition or prevention and education are the means used to improve the human race. Prohibition is done in two ways, by law or by surgery. The latter method is more humane than the former because it is more effective and certain.

Prohibition by law is better than none. It is uncertain at times but it caters to a maudlin sentimentality and keeps in line the brethren

in the faith who have not attained to the full stature of a physiological necessity. They are pandering in the field of psychological uncertainty.

Negative eugenics has to do with directing with whom not to tie. In the olden time marriages were made in heaven. But since so many marriages have proven defective and separation by divorce is so common (one in five marriages?) the order has changed and brought down to an earthly contract. It is true that confining the marriage relationship to this mundane sphere takes away from courtship and marriage some of the romance heretofore connected with it. But it will lessen the brood of epileptics, imbeciles, neurotics and the generally unfit. It puts also a greater duty and obligation upon the medical man in directing humanity in its earthly existence and progress, and at the same time relieves the sky pilots.

Orthodox medicine is taking on big chunks of liberalism. She is digesting and appropriating this adventitious menu to her benefit in growth, development and betterment. Orthodox medicine (practice) may be compared to a great man. A great man has a corresponding great weakness. If he did not have a great fault he would be none of us—being perfect.

The great man's weakness, fault or sin, the same as our own, is so close to him he cannot see it. His greatness is shown and increased when his fault is pointed out to him and he is able to see it and then correct his error. To be orthodox is essential to progress and success, if by it is meant to do the best we know how to do and stay with it; the right as we see it, subject, however, to constant review and comparison with the progress and growth of human knowledge and facts learned by our own experience and that of our fellows.

But an orthodoxy that closes the book when written and says "the last word has been spoken and recorded, nothing can be added to or taken from the record; we alone are the authority; there is no fact or truth unless it comes through and is approved by our orthodoxy;" just then recession and decay begins and ends in rigor mortis. Orthodox medicine (practice) has served a good purpose in the profession. It can continue to serve and be the nucleus for all medical practice, if it will recognize truth wherever found and from every source whether within or without its holy or holies.

Orthodox medicine to continue its hold and prestige in world affairs must realize and recognize the fact that it is the heretic who

has advanced the profession of medicine and stimulated investigation. He was not satisfied with results. He questioned authority for truth. He substituted truth for authority and 'governed himself accordingly.'

There has been a tendency in orthodox medicine to transpose and translate the rules of ethics to do what Mary Queen of Scots (bloody Mary) did to the heretics in her reign. She said, "God will burn the heretics in the hereafter and I will begin now." And she did.

There was a tendency on the part of orthodoxy to tear down the neighbors house to improve and advance regular medicine instead of building a better house beside our neighbor and show the contrast by the improvement.

Regular medicine has recognized this little devil in the woodpile and proposes to shame him out of countenance and place by intelligence. The name of this little zealot was ignorance. Ignorance was the fault in the structure of the regular professional world. And it has worked as great disaster as the fault in the structure of the earth in Japan. Knowing now where the fault is and recognizing the havoc wrought, regular medicine proposes to rehabilitate herself and build anew and better by education. By educating the public. The public needs to be educated and will respond if properly approached. An inventory of the profession is now being taken: first to learn (in the words of the inebriated senator from Georgia in the U. S. Senate) "where we are at."

If as Dr. Mayo is reported to have said, "there are 50,000 doctors doing surgery in the United States and but 5000 are qualified to do surgery," education of the rank and file of surgeons is needed. The probability is, the same ratio of defectives is present in the ranks of the internal practitioners.

Such being the status of regular medicine it is not surprising that it is becoming choked with a luxuriant crop of devel grass of isms.

The surety of continued life, re-invigorating and growth of regular medicine is in recognizing the fault in its structure and filling in the vacuum which has caused the quake with a granite substance called education.

Moral. The Shibboleth of the regular medical profession now is freedom and construction instead of ob- and destruction.

Moral. The impression desired to be conveyed in these remarks is not destructive criticism, fault finding or censure but a plea for intelligent healthy liberalism in orthodox medicine.

PERSONAL

Dr. R. M. Markham of Scammon, Kansas, is locating in Pittsburg, Kansas, with office in the Headlight Bldg., 7th and Broadway.

Dr. James William Warring of Linwood has practiced medicine in Kansas for fifty-four years. He was born in Kentucky and attended the Kentucky School of Medicine at Louisville.

Dr. J. L. Lattimore, Topeka, was elected president of the Kansas Medical Laboratories Association at its regular meeting in Topeka, November 14.

Dr. J. F. Hassig and Dr. W. E. McVey attended the annual conference of the secretaries and editors of state societies at the A. M. A. headquarters in Chicago, November 16 and 17.

Dr. and Mrs. C. E. Earnest of Clay Center are the parents of a son, whom they have christened Robert J., born Friday, November 23, at Kansas City, Missouri. The doctor is celebrating the happy event by moving his office into a more commodious suite in the Farmers Bank building.

Dr. B. F. Morgan, of Clay Center, has been wrestling with an attack of lumbago for a number of days during the past month. He is back on the job now and ready to take on any so called golf champion in the profession.

Miss M. M. Buchanan has recently resigned her position as Superintendent of the Hospital at Ellsworth, a position which she has held for a number of years, and is visiting for a time with the Drs. Stillman and Morgan families in Clay County. She may go to the Pacific coast for the winter.

Miss Emma Carlson, R.N., one of the earliest graduates of the Clay Center Hospital was married recently to Mr. Gene Badet of Clay Center.

Dr. E. C. Morgan is the first president of the Rotary Club organized lately at Clay Center.

—B—

SOCIETIES

SALINE AND MCPHERSON COUNTY SOCIETY

The Saline County Medical Society and the McPherson County Medical Society held a joint meeting at Lindsborg, November 20. About forty physicians were in attendance. Dr. C. C. Conover, Kansas City, Mo., gave an illustrated lecture on "The Effect of Infections Upon the Heart."

BUTLER COUNTY SOCIETY

At a recent meeting of the Butler County Medical Society drastic action was taken regarding the use of Abram's methods by members of the Society and the following resolutions were adopted:

"It shall be the sense of the Butler County Medical Society that Abram's diagnosis is a fraud. Any physician practicing this method is ineligible to membership. If a member, he shall immediately cease this method of practice or charges of unethical conduct shall be preferred against him."

The following were present at the meeting: Drs. G. D. Buntin, Augusta; Cabeen, Leon; Kassebaum, Augusta; John Clark, Latham; C. E. Boudreau, F. E. Dillenbeck, W. J. Eilerts, L. W. Fowler, G. C. Hall, H. M. Lyle, J. B. Musiek, Anna Perkins, F. M. Shonkwiler, E. E. Rainey and L. L. Williams, all of Eldorado.

STAFFORD COUNTY SOCIETY

Society met in St. John Wednesday, Nov. 14th, at three o'clock p. m. Members present: J. J. Tretbar, F. W. Tretbar, W. L. Butler, T. W. Scott, Stafford; R. E. Stivison, Hudson; M. M. Hart, F. C. Powell, F. E. Dargatz, Macksville; C. S. Adams, L. E. Mock, J. T. Scott, Sr. John.

Dr. Stivison read a paper on Neuro-Syphilis in General Practice, reporting two cases. He stressed the importance of early diagnosis, as in this and the institution of proper treatment only can the later ravages of the disease be successfully prevented, suggesting that the country as well as the city practitioner should be constantly alert for syphilitic manifestations. Where the clinical symptoms along with the case history point to syphilis, even though a Wassermann be negative, proper specific treatment should be administered, which often justifies the suspicion. We are thus provided with a simple diagnostic means easily available and always reliable. In cases that have been using alcohol excessively, either externally or internally, blood for Wassermann test should not be used until sufficient time is allowed for its elimination, as it is known to produce a negative reaction when a positive exists.

The treatment recommended was that generally recognized and used—mercury, iodides, arsenicals, externally, internally and intravenously. Dr. F. E. Dargatz, who has recently succeeded Dr. Powell at Macksville was elected to membership. Arrangements are under way for the annual meeting next month when officers for 1924 will be elected. The afternoon session will be devoted to papers and clinics. An address by the retiring president and a paper by J. T. Scott on "The Min-

ute Circulation of the Cerebro-Spinal Substance," illustrated by lantern. A banquet in the evening attended by the ladies.

J. T. Scott, Secretary.

CLAY COUNTY SOCIETY

The Clay County Medical Society met at the office of Dr. X. Olsen at Clay Center on the evening of November 23d. Dr. Frank C. Neff of Kansas City, Missouri, addressed the Society on the administration of the Schick test and the active immunization against diphtheria by the use of Toxin-Antitoxin. Dr. Neff has a wide experience in the use of this method and is a most enthusiastic advocate of its efficacy. There were present at the meeting Doctors Olson, R. J. and W. R. Morton, Bale, Stillman and Stewart and Nurses Pace, Hanson and Carlson, and Miss Clare Morton. Dr. Neff also gave a short and very interesting talk on the care of infants born before term. After the meeting a clinic was held and Dr. Neff administered the Schick test to a number of the physicians and all of the nurses present.

WILSON COUNTY SOCIETY

The Wilson County Medical Society met at Neodesha Monday evening, November 19th. After a good supper (and we consider a full stomach a great help to a good understanding amongst us) we discussed the things a number of us had heard in Kansas City the week before.

The following paper was read by Dr. E. C. Duncan about the life and death of Dr. H. E. Reece, a member of our society and formerly a resident of Buffalo, Kansas.

Dr. H. E. Reece, late of Buffalo, but who moved to Lawrence last spring, dropped dead while hunting near Buffalo with Dr. A. L. Skoog of Kansas City, November 9th. He had not been sick previously but had had some trouble which he attributed to his heart.

Dr. Reece was born December 27, 1876, at Jefferson, Iowa, was reared in Chanute, Kansas, and graduated from the Kansas City Medical College in 1900. He was a member of the A. M. A., the Kansas State Medical Society, and the Wilson County Medical Society; was a 32 degree Mason, a Shriner, and a member of the Chanute Lodge of Elks.

In the summer of 1917 when the war clouds were hanging heavy over the World, Dr. Reece made several trips to Fredonia to see about joining an ambulance company which was being organized at that place, and which was supposed to get right "over there" without delay. Reece was a man of action and wanted to get to the front before the war would be over. He was commissioned a

First Lieutenant, the highest grade given Medical Officers at that time. He was ordered active duty with the ambulance company on September 12, 1917, a few days later going to Camp Funston where his outfit was assigned to the 89th Division with which he remained at home and abroad until mustered out in June, 1919. The best and the only thing that need be said is that his comrades, commissioned and enlisted, were always for Reece.

The Reece family has been hard hit in the last few years since the war. Dr. Reece's wife died in 1920; a daughter was drowned in the Neosho river near Chanute in 1921 and now Doctor Reece himself. This leaves but one member of the family, Miss Hallie of Lawrence.

The funeral was held at the Episcopal church at Chanute and burial in the Chanute cemetery. Of the out-of-town people who attended, a partial list follows: Jim Hedrick, Clyde Thompson, Miles Canty, E. C. Duncan, Fredonia. Dr. O. D. Sharpe, Dr. B. P. Smith, Earl Rhoades, Max Thurman, Neodesha. Hops Willoughby, Dude Groomer, Coyville. Dr. George F. Porter, Centerville, Dr. Simpson, Moran. Drs. McCarty, Belot, Thiur-low, Kansas City, and a host of people from Buffalo.

E. C. DUNCAN, Secretary.

SHAWNEE COUNTY MEDICAL SOCIETY

The annual meeting of the Shawnee County Medical Society was held at Pelletier's Tea Room, Monday evening, December 3. Officers elected for the year 1924, were: W. H. Weidling, president; Robt. B. Stewart, vice-president; Earle G. Brown, secretary; Milton B. Miller, Treasurer; C. F. Menninger, member board of censors. Following the election of officers, a dinner was served to 107 of the members, their wives and guests. A humorous program followed the dinner.

EARLE G. BROWN, Sec'y.

DEATHS

Clifton Allen Thomas, Fredonia, Kansas, died October 10, at Albany, Ore., of tuberculosis, aged 43. He was graduated from the Kansas City (Mo.) Medical College in 1905. He was past president and secretary of the Wilson County Medical Society; served in the M. C., U. S. Army in Siberia, during the World War.

Samuel Carpenter Pigman, Concordia, Kan., aged 66, died November 5, of carcinoma. He was graduated from the Jefferson

Medical College in 1879. He was formerly a member of the school board and coroner.

Clark N. Starry, Coffeyville, Kansas, aged 52, died October 17, of heart disease. He was graduated from the Kansas City (Mo.) Homeopathic Medical College in 1897.

Dr. David E. Broderick, Wichita, aged 46, died at his home November 14, after a lingering illness. He was graduated from Rush Medical College in 1901. In the World War he was chief of the orthopedic department at the Great Lakes Naval Training School with the rank of lieutenant.

Dr. L. B. Bushong, Topeka, aged 53, died November 15, at his home in Topeka. He was graduated from the Kansas Medical College in 1897.

Dr. Henry E. Reece, Lawrence, Kansas, aged 47, dropped dead while hunting near Buffalo, Kan., his former home, November 9th. He was graduated from the University Medical College, Kansas City, Mo., in 1900. He served as first lieutenant in an ambulance company of the 89th division during the World War.

— R — BOOKS

Abt's Pediatrics. By 150 specialists. Edited by Isaac A. Abt, M.D., Professor of Diseases of Children, Northwestern University Medical School, Chicago. In eight octavo volumes totaling 8000 pages with 1500 illustrations, and separate Desk Index volume free. Now ready—Volume I containing 1240 pages with 284 illustrations. Volume II containing 1025 pages with 180 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$10.00 per volume. Sold by Subscription.

The appearance of the first two volumes of Abt's Pediatrics marks one of the greatest accomplishments in medical literature. It is quite an undertaking to collect and compile the latest and best utterances on the various subjects to be considered in so large a field as this. The completed work will represent the opinions of the most renowned men in their special lines. The first volume contains chapters on medical history, predisposition and heredity, anatomy of the infant and child, growth and development, physiology of metabolism, physical chemistry, hygiene. The second volume contains chapters on mortality of infants, history taking, cerebrospinal fluid, roentgenology, peculiarities of diseases in childhood, prophylaxis and treatment, heliotherapy, diseases of the newborn, chemistry and biology of milk, feeding, diabetes, seasickness, beriberi, acidosis, obesity, scurvy,

pellagra, rickets, constitutional diatheses, acrodynia.

A Clinical Guide to Bedside Examinations by Elias, Jagie, and Luger of Vienna, Austria. Translated by Wm. A. Brams, M.D. Published by Reiman Company, New York.

This little volume of 135 pages contains a great amount of valuable information. It is quite explicit in describing methods for bedside examination. It makes no pretense to explain the methods for laboratory tests.

Habitual Constipation by Ismar Boas, M.D., Berlin. Translated by Thos. L. Stedman, M.D. Published by Funk & Wagnalls Company, New York. Price \$2.00.

This book was prepared for the lay public and is written in sufficiently plain terms that it may be readily understood. It contains nothing particularly new or of especial interest to the practitioner.

Introduction to Medical Biometry and Vital Statistics. By Raymond Pearl, Ph.D., Professor of Biometry and Vital Statistics, Johns Hopkins University. Octavo of 379 pages, illustrated. Philadelphia and London: W. B. Saunders Company. Cloth, \$5.00 net.

To those who are interested in vital statistics, in their preparation and interpretation, this book will make a strong appeal. It is replete with figures, tables, charts, graphs and diagrams. It tells one how to make the necessary calculations and how to harmonize the facts with the findings.

Rubber and Gutta Percha Injections by Charles Conrad Miller, M.D., Chicago.

This is a preliminary report of the use of various forms of rubber and gutta percha subcutaneously for the purpose of raising the depressed nasal bridge and filling in various tissue deficiencies. Illustrations and descriptions of the types of material used, the manner of preparation, and special syringes used by the writer. Published by the Oak Printing and Publishing Co., Chicago. Price \$1.75 prepaid.

The Examination of Patients. By Nellis B. Foster, M.D., Associate Physician to the New York Hospital; Associate Professor of Medicine at Cornell University, College of Medicine. Octavo of 253 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$3.50 net.

Whether this was intended for a complete work on diagnosis or a lecture on methods of examination it has some very readable and instructive matter in its 220 pages. There are many eminently practical suggestions. It might be regarded as a very desirable supplement to a complete work on the subject.

The Practical Medicine Series. Vol. I. General Medicine under the general editorial charge of

Charles L. Mix, A.M., M.D. This volume edited by Geo. H. Weaver, M.D., Lawrasen Brown, M.D., Robt. B. Preble, M.D., Bertram W. Sippey, M.D., Ralph C. Brown, M.D. Published by The Year Book Publishers, Chicago.

This is one of a series of eight volumes covering the years progress in medicine and surgery. Each volume contains whatever has been added, during the year, to knowledge of the subjects which it treats.

A Manual of the Practice of Medicine. By A. A. Stevens, M.D., Professor of Applied Therapeutics in the University of Pennsylvania. Eleventh Edition, Entirely Reset. 12mo of 645 pages, illustrated. W. B. Saunders Company, Philadelphia and London: 1923. Cloth, \$3.50 net.

It seems on first thought that little of importance on so large a subject as the practice of medicine can be told in a 12mo volume of less than 650 pages. The appearance of the eleventh edition of this book, however, suggests that it contains at least enough to make it attractive to the profession. And it really doesn't require as much space to register facts as it does to present opinions and theories. Perhaps one learns more by studying the small books than by reading the big ones.

Notebook of an Electrotherapist by Mel R. Wagoner, M.D. Published by McIntosh Electric Corporation, Chicago.

The author first describes the various electric currents and tells how they are produced. He then describes the indications for the application of each and the proper methods for using them, giving the technic of the electric treatment for various conditions.

Exercise for Health and Correction by Frank D. Dickson, M.D., and Rex L. Diveley, M.D. Published by J. B. Lippincott Company, Philadelphia.

This is an illustrated booklet showing the various exercises and postures recommended. The illustrations are carefully explained by the text.

A Text-book on Anatomy and Physiology, by Jesse F. Williams, M.D., Professor of Physical Education, Teachers College, Columbia University, New York City. 12mo of 523 pages with 369 illustrations. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$3.00 net.

Here is another of these little books covering a vast field of knowledge, but this is prepared for the student in the "practical arts"; household art, nursing, occupational therapy, physical education, physiotherapy. No doubt it contains all the information required for their particular requirements, in fact it appears to be rather more technical, and more comprehensive than their requirements justify.

Principles of Vital Statistics. By I. S. Falk, Ph.D., Department of Public Health, Yale Univer-

sity. Octavo of 258 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1923. Cloth \$2.50 net.

The importance of vital statistics is being more and more impressed upon the people and the profession. One of the objects of statistics according to the author is to find out what has happened in the past in order to predict the future. The author also gives a very important admonition in discussing the interpretation of statistics: "Never have preconceived ideas as to what the figures are to prove."

A Primer for Diabetic Patients. Brief Outline of Diabetic Treatment, Including Directions for the Use of Insulin, Sample Menues, Recipes, and Food Tables. By Russell M. Wilder, M.D., Mary A. Foley, and Daisy Ellithorpe, Dietetians, The Mayo Clinic. Second Edition, Reset. 12mo of 119 pages. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$1.50 net.

The second edition has been entirely rewritten and may be regarded as quite in harmony with modern knowledge and teaching. It greatly simplifies the management of diabetic cases to hand them a book of instructions, such as this, to follow.

Physical Examination and Diagnostic Anatomy. By Charles B. Slade, M.D., formerly Chief of Clinic in General Medicine, University and Bellevue Medical School. Third Edition thoroughly revised. 12mo of 179 pages illustrated. Philadelphia and London: W. B. Saunders Company. Cloth, \$2.00 net.

In this edition of this book a new section on blood pressure and the sphygmomanometer has been added. Otherwise the text has been little changed. It is concise although the procedures are explicitly described.

Gynecology. By William P. Graves, M.D., Professor of Gynecology at Harvard Medical School. Third Edition, thoroughly revised. Octavo volume of 936 pages with 388 half-tone and pen engravings and 146 microscopic drawings, 103 of the illustrations in colors. Philadelphia and London: W. B. Saunders Company, 1923. Cloth, \$9.00 net.

In this the third edition of Graves Gynecology a considerable number of changes are noted. Some new matter has been added, especially on the subject of ovarian tumors. A description of some of the newer operations has also been introduced. The work is excellently illustrated.

Clinical Diagnosis. By Laboratory Methods. A Working Manual of Clinical Pathology. By James Campbell Todd, M.D., Professor of Clinical Pathology, University of Colorado. Fifth Edition, Enlarged and Reset. Octavo of 762 pages with 325 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company. Cloth, \$6.00 net.

This contains a very complete description of all the laboratory methods of merit used in clinical diagnosis. It is very explicit, yet

as concise as clarity will permit. Illustrations are used wherever required to make the texts clearer. It is very up-to-date, giving the latest and best methods now in use.

—R— Antitoxin Progress.

Ever since Behring and Roux gave diphtheria antitoxin to a waiting world, the most progressive biological laboratories have been engaged in reducing to a minimum the inconveniences and uncertainties of antitoxin administration.

The doses given at first were too small, and yet quite large enough in volume. The manufacturers soon succeeded, however, in eliminating useless water from the serum and otherwise concentrating it. Meantime more accurate methods of assaying it were developed, the U. S. Public Health Service co-operating.

The packages, too, have been improved. The profession has for many years insisted on a syringe package, and in such a package, with the serum in contact with the rubber of the piston, adhesion between rubber and glass has been a source of great difficulty in handling.

One by one all the practical problems encountered have been solved, and now we have an antitoxin so concentrated that it carries when fresh 40 per cent more of the antitoxic principle than the label calls for, and yet does not make an unmanageable dose, even when a single injection of 20,000 units is to be given. Moreover, in the processes of concentration excessive viscosity has been avoided, for that would interfere with rapid absorption. And the syringe packages now being offered have won the praise of the profession.

Our readers should take the time to follow what Parke, Davis & Co. have to say about "Improvement of Antitoxin" elsewhere in this issue.

—R— The Efficiency of Arsphenamines

A reliable basis for comparing the efficiency of therapeutic agents is the chemotherapeutic index, that is, the relation of the maximum tolerated dose to the minimum curative dose.

Judged by this standard, the chemotherapeutic index of D. R. L. Neoarsphenamine, which generally passes a toxicity test of 350 mgs. per kilo of body weight, or higher, (from 75 to 100 per cent better than government requirements) is about 58.3.

A leading syphilographer recently wrote: "We are using D. R. L. Neoarsphenamine with great satisfaction in my clinic and at the hospital, and very rarely have any reactions that amount to anything. The thera-

peutic results have been extremely satisfactory. In my private practice, our results have been so good that I personally could not be persuaded to use any other product. We rarely have any patient complain of reactions, and the curative properties of the drug have been such that in secondary syphilis the first course of ten or twelve injections is invariably followed by a negative Wassermann test."

—R— An Improvement in the Diphtheria Toxin-Antitoxin Formula

The Research Laboratory, New York City Department of Health, has recently shown the possibility of improving Diphtheria Toxin-Antitoxin Mixture. It has long been recognized that susceptibility to diphtheria is greatest in infants of about one year of age, when probably 90 per cent are susceptible. From this point, immunity is slowly but gradually developed until in early adult life complete immunity is the rule rather than the exception. It is reasonable to suppose, and in fact it has been proven by Park and his associates that the amount of diphtheria toxin required to produce active immunity becomes less and less, while the possibility of the protein reaction which occasionally occurs is increased.

The work of the New York City Department of Health has demonstrated that a mixture containing only 1-30 part of the amount of toxin formerly used, is effective in protecting against diphtheria. The percentage of antitoxin in the mixture is also reduced so that the proportion of free toxin remains unchanged. The new formula, in short, retains all of the immunizing value of the old Toxin-Antitoxin Mixture, but reduces to a minimum the possibility of protein reaction.

The Squibb Laboratories have announced the introduction of this new formula, marketing it under the title of Diphtheria Toxin-Antitoxin Mixture Squibb (New Formula).

—R— The Antirachitic Influence of Egg Yolk

Seven children, all colored, suffering with rickets, usually of a severe degree, were fed by H. R. Casparis, P. G. Shipley and Benjamin Kramer, Baltimore (Journal A. M. A., Sept. 8, 1923), on milk and cereals to which one or two eggs a day were added. All the children with but one exception took the egg well. This child refused the egg for several weeks, but took farina and milk. The rachitic process was not improved. Later the egg was well taken, and the rachitic process soon began to heal. No allergic reactions were ob-

served with any of the children. The usual technic of such studies was observed. Roentgenograms of the extremities were taken on admission and at subsequent intervals, and the blood serum was analyzed for calcium and inorganic phosphorus at the same time. Definite healing could be demonstrated by the roentgenogram within three weeks after egg was made a part of the diet, and the inorganic phosphorus of the serum increased from the low level of active rickets to the normal of 5 or more milligrams per hundred cubic centimeters of serum.

— R —

Recent Phases of Thoracic Surgery

The avoidance of an open drainage during the acute pneumonic stage explains more simply than anything else the remarkable reduction of mortality in acute empyema. At Camp Lee, the mortality dropped from more than 40 per cent to less than 5 per cent, when early open drainage was given up. At the St. Louis Children's Hospital, since September, 1919, eighty-three cases of acute empyema have been treated by repeated aspirations during the pneumonic stage, followed by free drainage. There have been ten deaths, but not a single case has been fatal which was not accompanied by serious complications. Intrathoracic operations can be performed on many patients with a disregard of any form of apparatus for differential pressure. These are patients who have extensive adhesions or rigid mediastinal pleurae or those whose vital capacities are high. Others will go through intrathoracic operations more safely if some auxiliary agent is present to assist in inflating the lungs if necessary. Evarts A. Graham, St. Louis (Journal A. M. A., June 23, 1923), has found that Gwathmey's suggestion to use an ordinary nitrous oxid machine with a tightly fitting inhaler is satisfactory. He believes that the anesthetic of choice in thoracic work is nitrous oxid and oxygen. At any time during the operation, the lungs can then be inflated. Also in children, even in cases of empyema, much of the fright and terror which accompany an operation under local anesthesia can be avoided in this way. In any event, the surgeon should remember that too large an opening may cause death, and that the surest way to avoid fatal asphyxia is to close the opening, by plugging it with lung,

with gauze compresses or in any other way. Surgical drainage is not necessary in all cases of acute abscess. Proper postural drainage and artificial pneumothorax in certain cases will give results just as satisfactory as surgical drainage. Postural drainage will be of value in those cases in which the abscess communicates with a bronchus. Artificial pneumothorax should be reserved for small abscesses without adhesions. Wessler has reported two deaths from artificial pneumothorax. Surgical drainage should certainly be employed in large acute abscesses, and probably in any abscess with increasing toxic symptoms. In chronic lung abscess, surgical drainage with a tube is usually of little avail. In most of these cases, the patient must be content with a life of chronic invalidism, or submit to a radical surgical procedure. The operation of lobectomy is still a most formidable undertaking. In twenty-four cases, Lillenthal has removed one or more lobes. In his series, there has been a total mortality of 54 per cent. Graham, recently, in two cases of chronic lung abscess, has tried freely exposing the diseased portion of lung and burning it out with an actual cautery heated to a dull red. The procedure amounts to a lobectomy performed with a cautery. Details of the operation will be published in another article. The possibility of operating on valves of the heart has recently been opened up. An instrument has been devised which permits cutting of leaflets of a heart valve under direct vision. The heart is entered through an auricular appendage, the rhythm is not impaired, there is no hemorrhage, and there is no need of great haste. Up to the present time, Graham and Allen have used the methods only on dogs, but its application is so simple and so free from shock that it seems possible to extend its use at some time to convert a mitral stenosis in the human into a regurgitation.

PRACTICE FOR SALE: Established 32 years paying practice in coal mining town of about 2000 population with four smaller towns within four miles all gravel roads. Four room office in brick veneer building. Store room below 25x40. Office in these rooms 20 years. Will sell for quick turn all for \$1000. Good reasons given for selling. Come see me if you mean business. Dr. R. M. Markham, Scammon, Kansas.





Catalogue Stormont Medical Library

LARYNOLOGY AND RHINOLOGY

(This Department Continued from Last Month)

- COAKLEY, CORNELIUS GODFREY:
A Manual of Diseases of the Nose and Throat. '99.
- COHEN, JACOB DE SILVA SOLIS:
Throat and the Voice. '90.
- GILE, BEN CLARK:
The Nose, Throat and Ear. '15.
- GLEASON, EDWARD BALDWIN:
A Manual of Diseases of the Nose, Throat and Ear. '18.
- GRAYSON, CHARLES PREVOST:
Diseases of the Nose, Throat and Ear. '02.
- GRAYSON, CHARLES PREVOST, ed. Grunwald, L.
Atlas and Abstract of the Diseases of the Larynx. '98.
- GRUNWALD, L.
Atlas and Abstract of the Diseases of the Larynx. '98.
- HALL, F. DEHAVILAND and Tilley, Herbert:
Diseases of the Nose and Throat. 2d ed. '01.
- HEMMING, W. DOUGLAS:
Throat Diseases and the Use of the Laryngoscope. '81.
- HUTCHINSON, PROCTOR S.:
Manual of Diseases of the Nose and Throat. '91.
- IVINS, HORACE F.:
Diseases of the Nose and Throat. '93.
- JAMES, PROSSER:
Sore Throat. 3d ed. '78.
- KELSON, WILLIAM H.:
Diseases of the Throat, Nose and Ear. '15.
- KITCHEN, JOSEPH MOSES WARD:
Catarrh, Sore Throat and Hoarseness. '84.
- Student's Manual of Diseases of the Nose and Throat. '85.
- KNIGHT, CHARLES HUNTOON:
Diseases of the Nose and Throat. '03.
- KYLE, JOHN JOHNSON:
Manual of Diseases of the Ear, Nose and Throat. 2d ed. '07.
- KYLE, DAVID BRADEN:
A Text-book of Diseases of the Nose and Throat. '99. 5th ed. '14.
- LAKE, RICHARD:
Laryngeal Phthisis. '01.
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